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AUTHOR Dickson, W. Patrick; Moskoff, Mary
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ABSTRACT

A computer-assisted analysis of studies on referential communication (giving directions/explanations) located 66 reports involving 80 experiments, 114 referential tasks, and over 6,200 individuals. The studies were entered into a statistical software package system (SPSS) and analyzed for characteristics of the subjects and experimental designs, factors influencing referential communication performance, and changes in research over time. The typical study reported a single experiment in which about 60 white, English speaking, middle class children five to six years old communicated on a single referential task. More than half the reports appeared in the "Child Development" and "Developmental Psychology" journals. Communication performance was strongly related to age but not to sex or verbal ability. The trends since 1960 in referential communication research have been to use younger children in the studies, to examine simpler communication tasks, and to use research designs in which the subjects talk to experimenters rather than other subjects. (The computer breakdown of the studies by various characteristics is included for easy identification of studies with particular properties.) (Author/RL)

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# A META-ANALYSIS OF REFERENTIAL COMMUNICATION STUDIES: A COMPUTOR READABLE LITERATURE REVIEW

by

W. Patrick Dickson and Mary Moskoff

Report from the Project on
Studies in Language: Reading and Communication

W. Patrick Dickson
Faculty Associate

Wisconsin Research and Development Center
for Individualized Schooling
The University of Wisconsin
Madison, Wisconsin

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## Abstract

This paper reports a computer-assisted analysis of studies of referential communication. A literature search located 66 publications in which communication skills were studied using referential tasks. These publications reported 80 experiments involving 114 referential tasks. Each study was coded on 22 dimensions, including total number of subjects, their ages, sex, socioeconomic status, and ability, plus a number of task characteristics. The studies were entered into a statistical software package (SPSS) system file and analyzed with respect to the characteristics of the subjects and experimental designs, factors influencing referential communication performance, and changes in research over time.

A complete listing of the computer cards and the data deck from the literature review is included with this report for the convenience of researchers wishing to identify studies with particular properties.

Meta-analysis of the studies reviewed led to a broad overview of the field. The typical study was published in Child Development and reported a single experiment in which about 60 white, English-speaking, middle-class children from 5 to 6 years old communicated on a single referential task. In most of the studies, the children spoke or listened to an experimenter, not to other children, and, in the studies where children were allowed to communicate with children, they were often not allowed to see each other, talk back and forth, or ask questions. The typical task involved approximately nine trials in which one of a set of four pictures was described or chosen; the most commonly used pictures were abstract line drawings.

With respect to factors influencing referential communication performance, several conclusions emerge unambiguously. Communication performance is strongly related to age in almost every study. Fewer sex differences were found than might have been expected by chance, when comparing male-male versus female-female pairs. No studies compared mixed-sex with same-sex pairs. Verbal ability does not appear to be strongly related to communication performance, although significant relationships were observed in a few studies. Differences in children's communication performance due to socioeconomic background have appeared in a number of studies, but the causes and interpretation of these differences are unclear. Measures of egocentrism show little or no relationship to communication performance.

Analysis of changes in the field over the period from 1960 to 1979 revealed a number of trends. The age of children studied has decreased during this time. In early experimental designs, pairs of children communicated with each other, while more recently designs in which children communicate with an experimenter in standardized settings have become popular. The types of referential tasks used have tended toward simpler and less challenging tasks, with picture-choosing tasks involving pictures with fixed attributes becoming most common. The paper concludes with a discussion of future directions for research on children's oral communication skills.

## INTRODUCTION

This is a literature review of research studies of referential communication. The literature review represents what Glass (1976) has called a "meta-analysis," that is, an attempt to summarize findings across studies. Unlike many meta-analyses, however, the focus here is more upon the characteristics of the studies themselves than upon the conclusions derived from them. Although conclusions with respect to some commonly investigated factors such as sex, age, social class, and ability are summarized, the principal attention here is upon the experimental designs and the subjects who participated in the studies. Thus, this literature review is an attempt at forming a broad view of the field itself.

The paper has methodological and substantive aspects. Methodologically, the paper illustrates the use of a statistical software package (SPSS) to facilitate a review of research literature. The substantive aspect of the paper is the analysis of research on referential communication. The analysis examines the factors which influence referential communication performance and the state of the art in research on referential communication. In this introduction, we will first describe referential communication and the process by which we located the studies included in this review. Second, we will describe the process of coding these studies for entry into an SPSS file.

Referential communication research. Referential communication is that type of communication involved in such activities as giving

directions on a map or telling someone how to assemble a piece of equipment or how to select a specific object from a larger set of objects. Referential communication tasks have proven highly productive for research purposes because they yield objective measures of the accuracy of communication. Typical tasks used in such research call for one child to tell another child how to stack a set of blocks, assemble a toy model, or trace a route on a map. The degree to which the listener does what the speaker intended provides a measure of the communication accuracy for the pair.

Referential communication tasks have been used in a number of disciplines, often for rather different purposes. This literature search began in the developmental psychology literature and branched out into other fields where referential communication tasks have been used. Within the field of developmental psychology, interest in referential communication can be traced to the pioneering work of Jean Piaget (1926). Research in the United States on referential communication began to flourish at the same time Piaget's work became widely known here. Prominent in bringing Piaget's theories to the attention of American researchers was John Flavell whose book on Piaget (1963) and later book on children's communication skills (Flavell, Botkin, Fry, Wright, & Jarvis, 1968) stimulated the substantial line of research using referential communication tasks (see Flavell, 1977, pp. 172-179, for a nice summary). A major review of this work was provided by Glucksberg, Krauss, and Higgins (1975), three other prominent researchers in the field. More recently, Asher (1978) has written a review of referential communication.

Location of studies. The goal of this literature review was to locate every available study using the referential communication paradigm. We began with the review by Glucksberg et al. (1975) and located every published study cited in their review. Next we searched every issue of Child Development, Developmental Psychology, the Journal of Educational Psychology, and the American Educational Research Journal from January 1972 through March 1979 for research using referential communication tasks. Added to these articles were a collection of articles gathered over a several year period in a less systematic fashion. The citations of all of these articles were searched for additional references which had escaped our net. Sixty-six studies were located. Full references for these are given in Appendix A.

It seems safe to say that our search has located most studies of referential communication which have attracted the attention of researchers in the field of developmental psychology. We also found a number of studies using the referential communication paradigm in other fields, such as speech communication, communicative disorders, social and personality psychology, and industrial psychology. In addition, referential tasks (usually called "structured" or "teaching" tasks) have been used extensively in the field of cognitive socialization to study parent-child interaction, where the focus has usually been on style of interaction rather than communication accuracy (see Dickson, Hess, Miyake, & Azuma, 1979). A copy of each study was obtained and placed in a loose-leaf notebook.

Coding the studies. The process of arriving at a set of categories for coding the studies was tortuous and time consuming. Studies differ in important ways among themselves and vary in their complexity and scope, making it difficult to apply one set of categories across all studies. The set of categories went through a number of revisions as new dimensions were added and old ones revised. Each coding was checked several times and consistency checks were performed across categories. The final coding manual is included as Appendix B; a detailed discussion of each category is given in the appendix and in the section where analyses on each category are presented.

The final SPSS system file created for this literature review contains data coded for 66 publications, reporting 80 experiments and 114 tasks. Each separate publication is identified by the variable PUBID. A single publication may contain one or more experiments, where a separate experiment is defined as one using a different sample of people. Each experiment in order within a publication is identified by an integer from 1 to n in the variable EXPNUMB. Each experiment may involve one or more communication tasks, where a separate task is defined as one using different referents with distinct instructions. Each task within an experiment is identified by an integer from 1 to n in the variable TASKNUMB.

The fact that some publications include more than one experiment and some experiments include more than one task poses certain difficulties in choosing an appropriate "unit of analysis" for the data in this literature review. For example, in summarizing the

frequency with which different journals have published studies of referential communication, should a journal be counted twice if it published a single article which reported two separate experiments, or four times if the experiments each included two separate communication tasks? There is no completely satisfactory solution to this question, but in the following paragraphs we have listed the variables which seem best analyzed in each of three units of analysis: publications, experiments, or tasks.

Journal characteristics. The file can be reduced to one in which each of the publications is represented only once by use of the following SPSS card:

*SELECT IF (EXPNUMB EQ 1 AND TASKNUMB EQ 1)

Analysis based on this file seems most appropriate for the following variables: YEARPUB, JOURNAL, and PUBID, plus the supplemental variables YEARPUB2 and YEARPUB4.

Subject characteristics. The file can be reduced to one in which each of the experiments is represented only once by use of the following SPSS card:

*SELECT IF (TASKNUMB EQ 1)

Analysis based on this file seems most appropriate for the variables dealing with the characteristics of the people in the experiments, including measures of their age, sex, social class, ability, egocentrism or role-taking ability, and special characteristics such as race or language. These variables are: TOTALN, AGENGRPS, YOUNGEST, OLDEST, AGEFACTR, SEXPAIRS, SEXFACTR, SES, SESFACTR, IQ, IQFACTR,

EGOROLE, and SPECIAL, plus the supplemental variables TOTALN4, AGERANGE, and OLDERAGE.

Task characteristics. Analyses of task characteristics are best done using the complete file in which each communication task is represented as a separate case. No SELECT IF card is used for analyzing the following variables: EXPNUMB, TASKNUMB, REFERENT, WHOWHOM, CHANNEL, CONSTRTS, PRACTICE, TRIALS, and TRAINING.

Card deck for the SPSS file. The complete card deck for creating the SPSS system file used to generate the analyses in this literature review is presented in Appendix C. The inclusion of this listing makes it possible for other researchers to create their own file and carry out additional analyses. A punched card deck is available upon request.

## RESULTS FOR SEPARATE VARIABLES

Overview. Each study in this review was coded on a total of 22 variables. The first part of the results section presents the separate analyses of these 22 variables. Following these analyses, further analyses based on cross-tabulations of major variables with other variables are presented. The SPSS variable name is given in parentheses following each section heading.

Journals (JOURNAL). The publications reviewed are drawn largely from research on child development and developmental psychology. The studies are shown within journal in Appendix D. Of the publications, 24 appeared in Child Development and 14 in Developmental Psychology. These two journals alone accounted for 59% of the studies in this review. The Journal of Personality and Social Psychology was next with 4, but

none of these appeared after 1971. The remaining studies appeared in a diverse set of 17 different sources which draw from several disciplines other than developmental psychology. For example, speech communication is represented by the Journal of Communication and Language and Speech; education by the Journal of Educational Psychology and the American Educational Research Journal; cognitive psychology by the Journal of Verbal Learning and Verbal Behavior, Cognitive Psychology, the Journal of Experimental Child Psychology, Cognition, and Psychological Review; and industrial psychology by Human Factors. Thus, the literature review is predominantly based on research in the developmental psychology tradition, although a substantial number of other disciplines are represented.

Researchers in these different disciplines might profit from looking across disciplinary boundaries for valuable insights. Although no systematic analysis was performed, an examination of the citations in the studies reviewed here revealed very limited citation across disciplines. As one example, Chapanis has carried out extensive research on referential communication from the perspective of industrial psychology, where the emphasis is on how task properties influence performance (Chapanis, Ochsman, Parrish, & Weeks, 1972). In that researchers in this discipline are primarily concerned with the performance of average adults, little attention is given to variance attributed to individual differences (developmental or other). Developmental psychologists might find some of Chapanis' work on variance associated with task characteristics useful in designing tasks for research on

children. Similarly, industrial psychologists might profit from greater attention to individual differences in their subjects.

Number of subjects (TOTAL N). The experiments are listed in Appendix E in order of number of subjects involved. A total of about 6,200 subjects participated in the studies reviewed. The number of subjects involved in the experiments ranged from 4 to 544, with a median of 60. A histogram of the numbers of subjects in the experiments is shown in Figure 1. Given that the criterion for statistical significance used in most of these studies was $p < .05$, the power of the studies varies considerably. Although the probability of Type I errors is held relatively constant across these studies, the probability of Type II errors is not. When considering the number of studies which report finding significant effects for various factors, the reader should keep in mind that results of "no significant difference" must be balanced against the statistical power of the experiments, which is affected by sample size, as well as by the quality of the experiment itself. An extreme example of this is the study by Johnson and Gross (1968) which concludes on the basis of a study of four graduate students that speaking and listening skills are not correlated.

Age as a Variable in Referential Communication Research

Age of participants in the research (YOUNGEST, OLDEST, AGERANGE). In view of the fact that many of the studies were concerned with developmental changes, it is not surprising that age was included as a variable in many studies. The extent to which the research

| Frequency | Total N | Histogram |
|---|---|---|
| 1 | 0-10 | * |
| 4 | 11-20 | **** |
| 12 | 21-30 | ********** |
| 12 | 31-40 | ********** |
| 7 | 41-50 | ******* |
| 4 | 51-60 | **** |
| 6 | 61-70 | ****** |
| 7 | 71-80 | ******* |
| 2 | 81-90 | ** |
| 10 | 91-100 | ********** |
| 1 | 101-110 | * |
| 2 | 111-120 | ** |
| 3 | 121-130 | *** |
| 1 | 131-140 | * |
| 3 | 141-150 | *** |
| 1 | 151-200 | * |
| 2 | 201-250 | ** |
| 1 | 251-300 | * |
| 1 | >300 | * |

Figure 1. Distribution of experiments by total number of subjects.

has dealt with children from 4 to 8 years of age suggests a certain narrowness of developmental focus. The studies ordered on the age of the youngest and the oldest subjects are listed in Appendices F and G, respectively. In 51 experiments the youngest children were between the ages of 4 and 8. For 30 studies the youngest and oldest subjects were the same age, and for those 50 having more than one age group, in 45 of them the oldest subjects were between the ages of 4 and 11. The distribution of studies according to the youngest and oldest subjects is shown in Figure 2. The age range included in each study is shown in Appendix H. The age range studied is between 1 and 4 years for 38 of the 50 studies in which age was a variable.

Thus, "development" as investigated in most of the studies represented here is restricted to preschool through about fifth grade. Virtually no research appears on the referential communication skills of high school children, while most of the research on undergraduate college students and other adults is not concerned with developmental changes. The disproportionate attention to such a restricted part of the life span is understandable because of the strong influence of Piagetian theory upon this research. Nevertheless, the limited amount of research on older children and adults and the narrow age range included in individual studies fails to provide a life-span view of the development of communication skills. It also tends to perpetuate the preoccupation of the field with egocentrism as a strong determinant of communicative performance. Attention to the

| Youngest Subjects | | | Oldest Subjects | | |
|---|---|---|---|---|---|
| N | Age | Histogram | N | Age | Histogram |
| 0 | 1 | * | 0 | 1 | |
| 2 | 2 | ** | 0 | 2 | |
| 4 | 3 | **** | 0 | 3 | |
| 10 | 4 | ********* | 2 | 4 | ** |
| 16 | 5 | ********** | 6 | 5 | ****** |
| 9 | 6 | ********* | 1 | 6 | * |
| 11 | 7 | ********** | 7 | 7 | ******* |
| 5 | 8 | ***** | 4 | 8 | *** |
| 2 | 9 | ** | 8 | 9 | ******** |
| 3 | 10 | **** | 5 | 10 | ***** |
| 0 | 11 | | 10 | 11 | ********** |
| 1 | 12 | * | 2 | 12 | ** |
| 0 | 13 | | 0 | 13 | |
| 1 | 14 | * | 0 | 14 | * |
| 0 | 15 | | 2 | 15 | ** |
| 0 | 16 | | 0 | 16 | |
| 0 | 17 | | 0 | 17 | |
| 16 | 18 | ********** | 1 | 18 | * |
| | 35 | | 2 | 35 | ** |

Figure 2. Distribution of experiments by age of youngest and oldest subjects.

Notes. College students are coded as 18 years old; other adults as 35 years old. Thirty studies in which only one age group was studied do not appear in the "oldest" distribution.

large individual differences in referential communication skill among adults (who are presumably no longer egocentric in the original Piagetian sense) would encourage thought about the multiple influences upon communication performance.

Age differences in communication performance (AGEFACTR). The number of age groups included in the studies is shown in Appendix I. Only 10 studies had more than 3 age groups. Each study was coded according to whether age was a factor in the study, and if it was a factor, whether age was, or was not, related to performance. The analysis of age as a factor (AGEFACTR) appears in Appendix J.

Of the experiments, 37 did not include age as a factor in the experimental design, 38 experiments reported significant age differences in communication performance, while only 5 experiments including age as a factor found no significant age effects. A brief examination of these five experiments reveals that they involved either small numbers of subjects or a narrow age range. A study by Asher and Parke (1975) using similar and dissimilar word pairs included three experiments; age differences in communication accuracy were not significant for dissimilar word pairs in all three experiments, but were significant for similar word pairs in the first two experiments. Thus, only their third experiment found no age differences on either measure. The analyses in the third experiment, however, were based upon only 7 subjects per cell in the design across grades 2, 4, and 6, and age differences were found on a "task elaboration" measure. Asher and Oden (1976) conducted an experiment in which grade 3 and 5 children

(32 at each grade level) were asked to identify referents from their own messages. The grade 5 children were somewhat more effective in identifying the referents than the grade 3 children, but the differences were not significant at the .05 level.

Garmiza and Anisfeld (1976) designed a study in which grade 1 and 2 students (24 at each grade level) were required to discriminate referents from nonreferents; analysis of variance revealed no effect for grade. Meissner and Apthorp (1976) in two communication tasks performed by 39 children ranging in age from 4 years 3 months to 5 years 4 months found no differences in number of appropriate responses by the older versus younger children. Menig-Peterson (1975) found no differences between 14 children of mean age 3 years 9 months and 14 children of age 4 years 9 months in a task in which they were expected to modify their verbal communication as a function of listeners' needs and ability. In summary, communication performance is strongly related to age, and any study in which there is an age range greater than one year is likely to show age effects.

Clearly communication performance undergoes major changes during childhood and probably on into adulthood. The consistency of this finding has several implications for research on the development of communication skills. First, no further research is needed which simply shows that communication performance improved with age. Although journals with a developmental focus such as Developmental Psychology and Child Development are more inclined to accept for publication studies which include age as a factor, thoughtful examination of what can be learned from analyses of the effects of age on communication is

needed. Specifically, in future studies hypotheses should be formulated which predict, in illuminating ways, the interaction of age with other factors related to communication performance. For example, although they did not analyze their data in an analysis of variance model, Asher and Parke (1975) found an interaction between age and type of word pair (similar versus dissimilar), a result much more informative concerning what develops with age than would be a simple main effect for age.

The second point to be made with respect to future research on children's communication performance is that very tight control for age is needed in any study concerned with the correlation between communication performance and other measures. At the very least, age should be partialed out of any correlations with communication performance, and age should be used as a covariate in any analysis of variance using communication performance as the dependent measure.

Sex as a Variable in Referential Communication Research

The influence of sex on communication accuracy has been frequently studied, apparently more as a consequence of the availability of subjects of both sexes in approximately equal numbers, than as a result of compelling theoretical reasons. Although there is some evidence that adolescent females are superior in verbal skills (Maccoby & Jacklin, 1974), the fact that verbal ability has not been shown to be strongly related to communication skill makes it unlikely that verbal ability per se would result in observable sex differences in communication performance. Furthermore, sex differences in verbal abilities do not really emerge until adolescence, an age not substantially represented in these studies.

The following quotes exemplify the varied expectations and assumptions about sex differences expressed by researchers. "Sex was not a variable of interest here, since previous research has consistently found no sex differences in communication performance" (Asher & Oden, 1976, p. 134). "Current studies in the area of sex differences in perception tend to support the idea that differences in recall and retention play a role in the sex differences found in listening ability" (Brilhart, 1965, p. 45). Only girls were studied to "avoid boy girl bickering during training" (Fry, 1966, p. 677).

Cross-sex versus same-sex pairs (SEXPAIRS). Given the dyadic nature of communication, the influence of sex could be studied in two quite different ways. The performance of mixed-sex pairs could be compared with mixed-sex pairs. However, given the allusion to "boy-girl bickering" quoted above from Fry, one might expect that the comparison of same-sex versus mixed-sex pairs would have received considerable study, but it has not. Of the experiments reviewed, none have compared same-sex with mixed-sex dyads (Appendix K). In 48 of the experiments, the dyad consisted of an experimenter paired with a subject. In 31 experiments pairing subjects, all were paired with same-sex partners.

In future research it might be worthwhile to include sex-pairing as a variable, given the absence of any research on this possible influence on referential communication performance.

Sex differences between same-sex pairs (SEXFACTR). In contrast to the absence of research on same-sex versus mixed-sex pairings, analyses comparing male and female dyads have been done almost routinely. Of

the experiments reviewed here, 32 did not include sex as a factor, usually because all subjects were the same sex (Appendix L). In another 13 we could not determine if sex was analyzed, usually because males and females were included but no analysis for sex is reported. We suspect the analyses were performed in many of these cases and that no significant results were found. In 28 experiments authors explicitly reported finding no sex differences.

Only 7 studies reported finding sex differences, and most of these effects were either statistical interactions or effects limited to analyses at a single age or single dependent measure. Ironsmith and Whitehurst (1978) found a main effect for one of several dependent measures in which girls were more likely than boys to provide feedback on ambiguous trials. Karabenick and Miller (1977) found a sex by condition interaction in which boys but not girls generated superior messages in the listener feedback condition. This appears to have resulted from the fact that, as listeners, boys were more active than girls, asking more questions and confirming more specific messages. Meissner (1975) found no main effect for sex but, when grade levels were analyzed separately in a post hoc fashion, second grade boys performed better than girls in describing 10 relational concepts (represented by a set of small toy objects selected to resemble the pictures items in the comprehension version). In a later study Meissner (1978) found a main effect for sex in which both kindergarten and second grade boys performed better than girls on a similar task, but no sex differences on a different task. Danks (1970) found a main effect for sex in which females gave more correct responses to encodings of abstract figures than males and speculated that perhaps females

performed the task more carefully than males. Brilhart (1965) found the Brown-Carlsen Listening Comprehension Test Scores of females to be higher than those of males. However, males had higher listening scores than females on one of two subtests in a test involving complex geometric figures. Bearison and Cassel (1975) found a four-way interaction, sex by social code by order by listener condition interaction, and bravely sought to interpret it.

In summary, of the experiments which definitely included sex as a factor in the analyses, 34 found no sex differences, 3 found a main effect for sex on one dependent measure out of several analyses, and 4 found statistical interactions with sex. Females were superior in two findings, males were superior in three findings, while results for sex in two experiments were mixed. Most of the analyses used an alpha level of .05 for statistical significance. Given the fact that many of these 41 experiments included two or more dependent measures and the fact that statistically significant sex differences for main effects and interactions were included in this review, it appears that fewer sex differences were found than might have been expected to occur by chance. Maccoby and Jacklin (1974) have pointed out the tendency for "sex differences" to accumulate in the literature in just this fashion. Clearly nothing in the data suggests superiority of either males or females in referential communication performance. Sex differences in referential communication performance do not appear to exist, making this one of the few areas in which it can be said that no further research is needed.

Socioeconomic Status in Referential Communication Research

Socioeconomic status of participants (SES). The socioeconomic status (SES) of the participants in the studies is shown in Appendix M. Of those reporting the SES of the subjects, 36 were middle class, 6 were lower class, and 3 were upper-middle class. In 10 studies, contrasts were drawn between SES groups: 7 contrasted lower with middle, 2 contrasted middle with upper-middle, and 1 contrasted lower with upper-middle class.

Effects of socioeconomic status (SESFACTR). Of the experiments, 68 did not analyze for social class differences. Of the 10 that did include SES in the analysis, 8 found significant effects and 2 did not (see Appendix N).

Baldwin, McFarlane, and Garvey (1971) found middle SES dyads to be more accurate and more efficient (accuracy divided by total verbal output) than low SES dyads. Baldwin and Garvey (1973) assessed three additional components of problem solving communication on 43 of the 48 pairs reported in Baldwin et al. (1971). In two components of communication accuracy (orienting to another's situation and communicating essential information), middle SES children were more successful than low SES children. Heider (1971) found social class differences in coding style in two experiments. Lower class subjects used more inferential and wholistic descriptions while middle class encoders combined part-descriptive and wholistic descriptions. In the second experiment middle class encodings were more accurately decoded by members of both SES groups. Krauss and Glucksberg (1969) found that middle class speakers were more accurately responded to than were lower status speakers and middle status subjects were more accurate as listeners.

Johnston and Singleton (1977) investigated whether 5-year-old children would show similar social class differences in coding style to that found in Heider's (1971) study with 10-year-old children. They found that the working class group used the whole inferential style of encoding significantly more often than the middle class group and the middle class group made significantly greater use of the part-descriptive style. In decoding ability no significant social class differences were found. Pozner and Saltz (1974) studied social class differences in ability to communicate conditional information. Two dependent variables were measured: the number of errors made by the listener in each dyad and the number of correct conditional communications given by each communicator. The data showed that SES of the listener was not significantly related to errors by the listeners responding to conditional communications, but the SES of the speaker was a highly significant source of variation. The authors also suggest "that lower SES children were difficult to understand because of strong tendencies toward egocentric communicational patterns" (p. 764).

Schmitt and Hore (1970) studied patterns of communication between mothers and 5-year-old children. Three nonverbal variables were isolated: physical contact, body inclination, and glances. High SES mothers used more complex language, while low SES mothers showed a greater amount of physical contact and "steered their children more physically rather than verbally." High SES mothers recorded more mutual glances than the low SES pairs. Dickson, Hess, Miyake, and Azuma (1979) found the SES of mothers to be correlated with the communication accuracy of mother-child pairs when children were 4 years old in the U.S. and Japan .27 and .34, respectively.

Two studies showed no SES effects. Dickson (1974) compared children from a university community with those from a nonuniversity community with somewhat lower levels of education and found no differences. Higgins (1977) found no consistent or general social class difference on a number of measures of encoding performance. Higgins (1976, 1977, pp. 104-107) reviews several studies (some of which are included here) and concludes that in studies reporting SES differences, SES is often confounded with differences in IQ, formal education, familiarity with the experimental task, and so on. His analysis leads him to conclude that, if SES differences do exist, they are largely between "lower-lower" class speakers and other classes.

Rather than pursue the question of <u>whether</u> socioeconomic background influences referential communication performance, we might ask whether anything useful can be learned from further research on this variable. It seems likely that children from low income homes might not do as well as children from middle-class homes, but what theoretical or practical utility would there be in thoroughly establishing such a global finding?

Perhaps socioeconomic background should be considered as a variable, only if the research could reveal informative interactions between social class and performance. For example, Heider's (1971) study is interesting in that it explores the possibility of an SES by encoding style interaction, rather than simply a main effect of SES upon performance. Her finding appears to have been replicated by Johnston and Singleton (1977) in England. Interactions of this sort are at least potentially enlightening. The point to be emphasized here is that research designs which incorporate socioeconomic status as a factor should begin with hypotheses

about specific differences of interest, rather than simply test the uninteresting question of whether poor kids do worse than well-to-do kids.

Intelligence or Verbal Ability in Referential Communication Research

Verbal ability of participants (IQ). The ability levels of the participants are shown in Appendix O. Of the experiments, 46 reported no measure of IQ or ability, 21 reported their subjects were in the middle (90-110) range of IQ, 3 experiments had subjects whose IQ's were in the high (greater than 110 range), and 7 included some information on ability but did not give means or norms. Among studies contrasting ability groups, low versus middle ability children were compared in one study and middle versus high ability children were compared in two studies.

Effects of IQ or ability (IQFACTR). The analysis of IQ as a factor appears in Appendix P. Of the 34 experiments reporting ability or IQ measures for the participants, 26 did not make clear if IQ effects were analyzed. Three experiments explicitly reported no significant effects of IQ. Asher and Parke (1975) reported that the "IQ differences between subjects tested in different conditions and at different grade levels do not account for differences in communication accuracy" (p. 73). Samuels, Reynolds, and Lambert (1969) reported that the Raven's Progressive Matrices IQ was not significantly related to communication accuracy. Krauss and Glucksberg (1969) found that correlations between communication accuracy and several measures based on IQ (speaker's IQ, listener's IQ, the sum of these scores, and the absolute and arithmetic differences between the scores) were essentially zero.

In five experiments IQ was reported to be significantly related to communication. Rubin (1973) found that mental age (PPVT) was related to communication accuracy ("egocentrism"). Partialing out chronological age in Rubin's study, the correlation between PPVT, IQ, and accuracy was .31. Higgins (1977, p. 136) reports unusually large correlations between IQ and encoding scores which ranged from .39 to .74 in grades five through eight. Baldwin, McFarlane, and Garvey (1971) found that the Kuhlman-Anderson IQ of fifth graders in their study was correlated significantly with communication accuracy ($r$ = .30). Dickson (1974) found a correlation of 0.22 between the mean Peabody Picture Vocabulary IQ of dyads of children from 4 to 8 years old and their communication accuracy, but the relationship was largely a result of a strong correlation in the 4-year-old group. Dickson et al. (1979) reported that the referential communication accuracy of mothers paired with their four-year-old children was correlated to the child's Peabody Picture Vocabulary IQ ($r$ = .55 in the U.S. and .37 in Japan), but only slightly correlated with the Wechsler Adult Intelligence Scale verbal IQ of the mothers.

The principal conclusion which can be drawn in this area is that verbal ability is moderately related to communication performance with typical correlations around .30 to .40. Nevertheless, the relationship accounts for only a part of the observed individual differences in communication performance. Apparently, referential communication tasks tap something other than simply vocabulary. Perhaps this is not surprising when we remember that the referents in most of these studies can be described with simple vocabulary terms, such

as "red," "big," and so on. Indeed, to the extent that one is attempting to define a communication skill as a construct distinct from general verbal ability, the use of referents which require only vocabulary within the competence of the people studied makes good sense.

Effects of Egocentrism and Role Taking (EGOROLE)

Since the concept of "egocentrism" is prominent in referential communication research, it seemed worthwhile to identify those studies which included some measures of egocentrism or the closely related concept of role taking. The ill-defined nature of the "egocentrism" construct made this coding difficult. In many studies (e.g., Rubin, 1972) inadequate descriptions are labeled "egocentric" which is a tautological definition. In addition, current thinking seems to be that egocentrism is not a unitary construct (Ford, 1979; Rubin, 1973) and that role taking plays a minor role in referential communication (Shantz, in press). Nevertheless, we identified experiments which included some measure of egocentrism or role taking, but excluded studies which simply inferred egocentrism from inadequate descriptions.

The studies are categorized in Appendix Q under one of three research designs used to investigate the relationship of egocentrism to communication performance: the "different listener," "self- versus other-encoding," and "egocentrism-communication correlation" techniques. A useful analysis of the first two techniques was given by Asher and Oden (1976, p. 139). The different listener technique requires a child to communicate to different types of listeners, frequently comparing messages given to sighted versus blindfolded listeners. If

the messages are adapted in any way to the needs of the listener, an inference is made that the child is taking the role of the listener.

The second technique involves comparisons between messages encoded for one's self and messages encoded for or by other people. An early version of this technique simply compared the accuracy with which young children decoded messages of their own and found that they could accurately decode messages which appeared to be highly idiosyncratic and therefore egocentric (Glucksberg, Krauss, & Weisberg, 1966). However, Asher and Oden (1976) showed that part of this difference may have simply been due to memory. A more complicated version of this technique involves instructing a speaker to encode twice, once for him- or herself and once for others to decode. If the messages (or their decodability) did not differ, the inference was made that the speaker was egocentrically assuming that the best message for him- or herself was also the best for other decoders.

The third technique uses a correlational approach in which multiple measures of egocentrism and communication are taken. Construct validity would require strong intercorrelations among the egocentrism measures, among the communication measures, and reasonably large correlations between the two types of measures.

Different listener technique. Eight of the experiments compared speakers' communication to different types of listeners. Four involved blindfolded listeners and four involved listeners with different amounts of knowledge. A number of these studies were prompted by reports in Flavell et al. (1968) that even fifth graders produced referentially inadequate messages when communicating with blindfolded

listeners. This was contradicted by the findings of Shatz and Gelman (1973) that preschool children did adapt the form of their language to the age of the person with whom they were interacting. One common approach was to make the referential communication task very simple or more natural and the usual result showed that preschool children could adapt their messages to a blindfolded listener if the task was simple enough. For example, Maratsos (1973) found that even 3-year-olds could adapt their messages to blindfolded listeners when explaining the rules of a simple game. In a similar vein, Meissner and Apthorp (1976), contradicting earlier findings that second and fourth grade children were ineffective communicators, found that black 4- and 5-year-old children could adapt their messages to blindfolded listeners in a simple task in which children pretended to order toys from a store. Menig-Peterson (1975) made the task more natural and found that 4- and 5-year-olds adapted their descriptions of events in which they had participated (such as spilling juice) according to whether the listener had been present when the event occurred.

In addition to applying the "different listener" technique to show that young children can adapt their messages to listener needs in simple tasks, others have used it to determine whether children's characteristics are related to their ability to adapt to the listener's needs. Bearison and Cassel (1975) found that first graders from "person-oriented" families (as measured in an interview with the parents) were more likely to adapt their descriptions in appropriate ways to listener needs than children from "position-oriented" families. Genesee, Tucker, and Lambert (1975) compared English-speaking

kindergarten and second grade children who had been in a special French language "immersion" program with those who had received regular English language instruction. They found no difference between the two groups in their ability to communicate game rules to blindfolded listeners, but the children in the immersion program mentioned slightly more game materials in their messages.

Higgins (1977) compared children in grades four through eight from middle SES families with those from low SES families. He found little difference in their ability to adapt their descriptions of events to the needs of listeners who differed in their knowledge about a model town where the events occurred. Hoeman (1972) devised a clever task which displayed referents on a rotating drum, thereby requiring the speakers to make clear whether they were describing from their own or the listener's perspective. He compared 8- and 11-year-old children who were deaf to others with normal hearing and found evidence that the deaf children, in addition to their lower overall performance, were especially prone to having difficulty with the perspective task. Garmiza and Anisfeld (1976) studied the ability of first and second grade children to modify their descriptions to adequately describe a target referent for a listener who was seeing the referent in a different context than the one in which the speaker was seeing it. Their task placed heavy demands on the children's ability to remember what the listener was seeing. The authors interpret their finding that young children have difficulty resisting the perceptually present referent as indicative of a general cognitive limitation rather than egocentrism.

Self-encoding versus other-encoding technique. Three experiments used the "self- versus other-encoding" technique to investigate the influence of egocentrism on performance. Krauss, Vivekananthan, and Weinheimer (1968) instructed college students to encode 24 color chips either for themselves or for others. They found that the students decoded messages for themselves better than their messages for others were decoded by the others. Both conditions had more accurate decoding than the condition in which students decoded messages other students had encoded for themsleves. The magnitude of the difference across these three conditions was rather small, however, ranging from about 17 out of 24 in the self-decoding condition to about 14 out of 24 when decoding others' self-encodings.

Danks (1970) carried out a similar study using 22 abstract figures. College students were asked to write down the first word that came to mind when they saw the figure; a word which would help them identify the form or a word which would help someone else identify the form. Two weeks later students did slightly better when responding to descriptions for themselves than to descriptions for others, though, again, the difference was quite small (19.7 versus 20.8 correct, out of 22). Asher and Oden (1976) had third and fifth grade children encode clues for members of word pairs using social versus self-instructions. They found that, although the self-encodings were decoded somewhat more accurately than the social encodings immediately afterward, this difference disappeared upon retest 2 weeks later. They interpret this result as showing that the difference was due to memory rather than egocentric but meaningful descriptions.

Egocentrism-communication correlation technique. The "different listener" and "self- versus other-encoding" techniques define the egocentrism construct experimentally (Kerlinger, 1973, p. 31). The "egocentrism-communication correlation" approach measures egocentrism directly with a different instrument and correlates it with communication scores. Six experiments reviewed here used this latter approach. Feffer and Suchotliff (1966) measured undergraduates' "decentering ability" using a projective role-taking task. The undergraduates were shown three pictures and first asked to describe the event in the picture and next describe the event through the eyes of each person in the picture. The students were then paired to form dyads similar in decentering ability and played a "password" game in which they gave one-word clues to their partners who tried to guess the word. A significant relationship was found between decentering scores and the speed and accuracy with which the dyads completed the password game (Kendall's tau = .50).

Greenspan and Barenboim (1975) describe a matrix test of referential communication skill which requires a person to describe the placement of objects differing on size, shape, and color into a three by three array such that another person could construct the array. The test has high test-retest reliability and can be used with children from grades 1 through 6. They found significant correlations between the communication score and peer sociometric ratings ($r$ = .86) and teacher sociometric ratings ($r$ = .54) at one school, but nonsignificant correlations between these measures at another school. An emotionally disturbed group of children between

the ages of 8 and 15 had significantly lower communication scores than a matched group of normal children.

Although this study does not include a measure of egocentrism or role taking per se, the same matrix test was used by Chandler, Greenspan, and Barenboim (1974) along with a measure of role-taking skill. The role-taking test, adapted from Flavell et al. (1968), involves a cartoon story where events occur to certain characters early in the story; other characters who enter later would not be aware of them. The subjects are asked to describe how the characters entering later would react. Thus, the cartoon story is a form of the different listener technique discussed earlier. Chandler et al. (1974) divided a group of 48 children ranging in age from 9 to 14 into role taking, communication, or control groups. On pretests the cartoon story role taking scores and the matrix test communication scores correlated .31. The group trained in communication tasks showed improved referential communication and role taking skills, but the group trained on role taking improved only on role taking and not on communication skill. This pattern argues strongly against the hypothesis that role taking plays an important part in referential communication performance.

Two studies included multiple measures of egocentrism and communication performance. In a study involving kindergarten through grade six children, Rubin (1973) measured spatial egocentrism on a "three mountain" problem, communication accuracy with abstract figures, and recursive thought in a cartoon task requiring the children's ability to express such thoughts as "the man is thinking about the boy thinking

about...." Partialing out age, the communication accuracy score correlated .31 with the measure of recursive thinking and .35 with spatial egocentrism. Piché, Michlin, Rubin, and Johnson (1975) gave 20 fourth grade children three measures of role taking and two measures of communication accuracy. The two communication tasks (picture choosing and model building formats) were not correlated with each other at all ($r$ = .00), though the cartoon story role-taking test did correlate significantly with the picture choosing task ($r$ = .44), but not with the model building task ($r$ = .32).

In conclusion, there is little evidence that egocentrism or role taking are strongly related to referential communication performance. In a review of the egocentrism construct, Ford (1979) concluded that the egocentrism construct is not supported and various measures of egocentrism do not correlate with each other. Consequently, the lack of evidence for the influence of egocentrism upon referential communication performance is hardly surprising, though the popular appeal of the notion that egocentrism lies behind communication failures in young children makes it likely that belief in such a relationship will persist despite its lack of empirical support.

Special Characteristics of Participants (SPECIAL)

Any special characteristics of the participants in the studies are noted in Appendix S. In 62 of the experiments all participants spoke English and had no special characteristics. There were three experiments in which a language other than English was involved (Dickson et al., 1979), three in which the subjects were emotionally disturbed (Chandler et al., 1974; two reported in Greenspan &

Barenboim, 1975), two in which the children were involved in a French immersion program (Genesee et al., 1975; Samuels et al., 1969) and one in which the children were deaf (Hoeman, 1972).

Nine experiments involved black participants, many of which included both black and white participants. Only four of the studies compared black and white performance. Baldwin et al. (1971) reported that whites were more accurate on one communication task than blacks, but later Baldwin and Garvey (1973) concluded that the difference did not generalize to two other tasks, rendering the earlier finding uncertain. In Krauss and Rotter (1968) race was confounded with SES which renders the difference they report uninterpretable. Heider (1971) included a lower-class black and white group and found no differences between the two groups.

In summary, most of the studies reviewed here involved normal, middle-class, English-speaking subjects. Those studies which involved other groups do not suggest substantial differences attributable to race or language, but, not surprisingly, do point to communication problems in deaf or emotionally disturbed young people.

Types of Referents Used in Tasks (REFERENT)

The referential activities used in the tasks were categorized into a number of types (Appendix S). The most common format is the picture choosing task in which the speaker attempts to communicate about one of a set of pictures. These pictures range from abstract line drawings to figures which are easily nameable. In view of their importance in referential communication research, the abstract figures developed by Krauss and Glucksberg are listed as a separate

category in Appendix S, though conceptually these studies also fall into the picture choosing category. Of the tasks included in this review, 25 used the abstract figures as referents. Several of the 33 other picture choosing tasks included the abstract figures along with other pictures (Dickson, 1974; Dickson et al., 1979; Patterson, Massad, & Cosgrove, 1978; and Piché et al., 1975). Closely related to the picture choosing task is one in which color chips are used instead of pictures. Five tasks using color chips are listed separately in Appendix S.

A variant on the picture choosing task involves placing pictures in an array. Nine tasks involved placing pictures in an array, commonly requiring children to place geometric shapes which differed in color and size into a three by three array (Chandler et al., 1974; Shantz & Wilson, 1972), but sometimes involving placement of figures into a landscape (Karabenick & Miller, 1977). Tasks that involve placing pictures in an array place demands upon children's communication skills beyond those involved in a picture choosing task with the same referents because they require children to express positional terms.

Two extensions of the picture choosing and array tasks involve three dimensional space: map directions tasks and model building tasks. Four tasks involved map directions and six involved model building. Map directions tasks typically present the speaker and listener with maps and ask the speaker to tell the listener how to trace a designated route on his or her map (Baldwin & Garvey, 1973, for example). Chapanis et al. (1972) had speaker-listener pairs attempt to find the physician's office closest to a given address;

the speaker had the list of physicians while the listener had the map.

Model building tasks have required the speaker to tell a listener how to construct a model from molecular models (Baldwin & Garvey, 1973), electronic kits (Chapanis et al., 1972), and other construction toys. The map directions tasks are potentially simpler because the field is fixed so the speaker and listener can be relatively certain they are looking at a similar display. As such, the map directions tasks are closely related to the array tasks. The model building tasks are potentially the most challenging of the referential tasks examined here, subsuming demands of the picture choosing tasks and going beyond the demands for expressing location inherent in the array tasks. For example, in a task involving molecular models (or Tinkertoys, Lego blocks, and the like) the speaker must not only specify the choice of each part but also communicate where in three dimensional space the part should go. Finally, unlike the map directions tasks, the speaker-listener pair must always keep in mind the possibility that an earlier piece has been incorrectly placed, leading to confusion when trying to locate subsequent parts.

Three types of tasks can be grouped together because the referents involve words, rather than physical objects or pictures: word pairs, message judging, and game rules. Ten word pair tasks were used in these studies. Typically, the speaker is shown a list of word pairs in which one is underlined. The speaker must choose a

word (or occasionally a few words) to identify the underlined word. Many of the studies using word pairs have been concerned with testing a statistical model put forth by Rosenberg and Cohen (1966). Eight message judging tasks required the participants to judge the adequacy of previously prepared messages (in some cases their own). The judgments of adequacy were then correlated with other indices of communication skill. The third type of task using words requires children to teach game rules to other children. Commonly, these rules have been first taught to the speaking children by use of nonverbal gestures in order to require the speakers to formulate their own way of describing the rules, a task developed by Flavell et al. (1968).

Although communication tasks involving words as referents have proven fruitful in a number of studies and permit the tight experimental control necessary to test certain theoretical models, they tend to purchase this reliability at the expense of validity. A great difference exists between the processes involved in communicating in one word messages about word pairs and those involved in the lively give-and-take required to tell someone how to construct a model, find a route on a map, or choose pictures and place them in an array. Skills measured in tasks involving word pairs in particular would seem less likely to generalize to natural settings than tasks involving map directions and model building.

In summary, the referential tasks used in the studies reviewed here vary in terms of the complexity of the task, the degree of the

interaction permitted between the speaker and listener, and the extent to which the communicative demands of the task are representative of communication situations encountered in every day experience. Without denying the value of basic research using the more artificial tasks, we would urge that researchers give serious consideration to tasks, such as the model building and map directions tasks, which do bear close resemblance to natural communication. The generalizability of the results of research on such tasks should be greater than the results of research on highly constrained tasks involving one word messages and allowing no opportunity for the speaker and listener to interact.

Who Sent to Whom in the Task (WHOWHOM)

An important characteristic of the communication activity is who is the speaker and who is the listener. The tasks are categorized on this dimension in Appendix T.

In the subject-to-subject design (this includes the parent-to-child design) the subjects form speaker-listener dyads in which one subject sends to another subject. The subject-to-subject design is the only one where interaction with questions and answers is possible, although such interaction was not always permitted. Unfortunately, the very naturalness of the interaction leads to complex communication which is difficult to analyze. The accuracy with which the dyad communicates serves as the primary measure of communication effectiveness. However, the dyadic score cannot be sorted out unambiguously into the variance due to the speaker's behavior and that due to the listener's behavior.

Although multiple pairings of speakers and listeners could preserve the natural interaction of the subject-to-subject design and still permit the analysis of individual performance (see Dickson, Miyake, & Muto, 1979, for a discussion), almost no studies have used the multiple pairing technique. Consequently, in studies using the subject-as-subject design, the dyad must be used as the unit of analysis (Dickson et al., 1979, p. 55).

The lack of experimental control inherent in the subject-to-subject design has led many researchers to adopt one of two other designs in which the experimenter (or tester) interacts with the subject: subject-to-tester design or tester-to-subject design. The subject-to-tester design focuses on a subject's speaking performance in a standard setting by having the tester serve as a listener whose behavior is carefully controlled. As listener, the tester typically either asks no questions or asks highly standardized questions. In the tester-to-subject design the experimenter presents standard messages to the subject to measure how accurately the subject decodes these messages or to study the subject's skill in asking questions when given inadequate descriptions.

The fourth commonly used design, the subjects-through-tester design, combines the subject-to-tester and tester-to-subject design. In this design, the tester first serves as a standard listener and records the subjects' messages, and then serves as the speaker and presents these messages to the same group of subjects in some balanced form. Needless to say, this design does not permit any speaker-listener interaction and the messages have frequently been

limited to single words or only a few words. Most studies using this design have used the picture choosing task, although longer descriptions of a model building or array task, for example, could be tape recorded.

Each of the different types of designs has contributed to our understanding of the development and nature of communication skills. Early subject-to-subject studies highlighted the difficulties young children had in referential communication tasks involving unusual referents in situations where they could not see each other (Glucksberg et al., 1966; Krauss & Glucksberg, 1969). Other studies with school age children showed that dyadic performances seemed to generalize across tasks (Baldwin & Garvey, 1973), task and referent characteristics strongly influenced performance (Chapanis et al., 1972; Hoy, 1975), communication skills were difficult to train (Dickson, 1974; Fry, 1966), and dyadic performance was related to certain aspects of the children's verbal interaction (Baldwin & Garvey, 1973).

Studies using the subject-to-tester design have shed light on the processing done by speakers during the act of encoding messages. One major line of research grew out of a model proposed by Rosenberg and Cohen (1966) for the sampling and comparison activity of encoders. In work related to Rosenberg and Cohen's model, Asher has generally used the subject-to-tester design and shown that young children tend not to engage in comaprison activity in a word pair task (Asher, 1976; Asher & Parke, 1975). Asher's finding was extended

to referent sets other than the word pairs by Whitehurst (Whitehurst, 1976; Whitehurst & Merkur, 1977) who showed that children do not produce contrastive messages. Other researchers have used the subject-to-tester design and analyzed transcripts of children's messages when encoding for blindfolded versus sighted listeners (Bearison & Cassel, 1975; Maratsos, 1973; Meissner & Apthorp, 1976), encoding for listeners with different knowledge (Menig-Peterson, 1975; Ratner & Rice, 1963), encoding in response to different feedback (Peterson, Danner, & Flavell, 1972), and encoding effects of training (Chandler et al., 1974; Shantz & Wilson, 1972).

The tester-to-subject design is one in which the tester presents standard messages to subjects, most commonly with a view to evaluating their decoding accuracy (Friedenberg & Olson, 1977; Grushcow & Gauthier, 1971; and Samuels et al., 1969) or to assessing the subject's skill in asking questions when given inadequate descriptions (an in Bearison & Levey, 1977; Cosgrove & Patterson, 1977, 1978; Ironsmith & Whitehurst, 1978a, 1978b).

The studies categorized in Appendix T as using the subject-through-tester design most often were treated as task one and task two within a single experiment. However, three studies were treated as a single task because no independent variables were analyzed separately for the encoding and decoding phases (Asher & Oden, 1976; Johnson & Gross, 1968; Krauss & Rotter, 1968). The studies using this design were concerned with accuracy of decoding across social class (Heider, 1971; Krauss & Rotter, 1968), self- versus other-encoding

(as discussed earlier with respect to egocentrism; see Appendix Q), and the ability to appraise the quality of previously generated clues (Asher & Oden, 1976).

In summary, each of the experimental design variations in terms of who sends to whom has value. The subject-to-subject design is potentially the most ecologically valid, but is the most difficult to analyze because of the complexity of the verbal interaction. The designs in which the experimenter serves as a standard listener or standard speaker are most useful for measuring initial encoding or, for listeners, accuracy of decoding and questioning skill.

Channel Used in Communication (CHANNEL)

The channel used for communication is shown in Appendix U for each study. For 85 of the tasks, spoken language was used, although the spoken language was sometimes written down by the experimenter (Asher, 1976; Asher & Oden, 1976; Asher & Parke, 1975; Heider, 1971; Krauss et al., 1968) for later presentation or coding. Written words were used in eight studies, nonverbal communication was emphasized in Schmidt and Hore's (1970) study, and sign language was used by Hoemann (1972). Teletypewriters were used in Chapanis et al. (1972), polar attribute pairs in Triandis (1960), while Higgins (1977) contrasted written with spoken language.

Constraints on Communication Channels (CONSTRTS)

The tasks are listed in Appendix V according to the types of constraints placed upon the communication between speaker and listener.

In all of the studies, the speaker was not allowed to point to the target referent, but beyond this restriction the studies differed considerably in terms of the types of constraints. This categorization was somewhat difficult to apply across designs which differ on who is communicating with whom (Appendix T): unconstrained communication is only possible in subject-to-subject designs, while designs in which the experimenter serves as the speaker or listener are, by their very nature, constrained.

Of the tasks in which subject-to-subject designs were used, only 5 permitted the speakers and listeners to see each other and talk back and forth. In another 14 of the tasks, the participants were separated by a visual barrier but were otherwise allowed to talk back and forth. In 6 of the tasks, the speakers were limited to one word messages, and in 10 more the listeners were not allowed to ask any questions (some of these also imposed a visual barrier).

The strong influence of such constraints upon performance can be seen in the six tasks where constraints were systematically varied. Chapanis et al. (1972) showed that time to complete referential tasks varied considerably when constraints varied from a condition in which subjects could see each other and talk freely to one in which only typewritten communication was permitted. Higgins (1977) also contrasted written and oral modes of communication and found that speakers encoded approximately the same amount of information in the two modes, but included much more redundancy in their oral messages.

Hoy (1975) found that variations in constraints strongly affected communication accuracy. Karabenick and Miller (1977) compared conditions in which listener questions were, or were not, permitted and found that boys (but not girls) produced improved messages in the questions condition. Krauss and Weinheimer (1966) compared conditions in which speakers were given feedback versus no feedback concerning the accuracy of the listeners' responses and found that speakers produced shorter messages over trials when given feedback.

Although definitions of constraints do not readily apply to designs other than those with two subjects interacting, nevertheless the other types of designs are shown in Appendix V, with those using only one word messages categorized separately. Fifteen of these tasks involved one word messages.

In summary, the types of situations designed to study referential communication have been highly constrained. Only 19 of the tasks have come even close to allowing natural, oral communication between two participants. Future research on referential communication should seek to make use of more natural communication tasks. In the future, researchers studying referential communication might consider allowing less constrained communication between pairs of subjects.

Were Subjects Given Practice Trials? (PRACTICE)

In Appendix W, studies are divided into those which did or did not provide the participants an opportunity to practice before beginning the actual communication trials. About three-fourths of the studies

did not report practice trials. Since it is important to ensure that the subjects understand the game, practice trials ought to be routinely included in the instructions, especially with younger children. Practice would also be especially important when working with children who might be intimidated by or unfamiliar with games experimenters play. Finally, any study of the effects of training which does not include practice trials is vulnerable to the criticism that improvement in performance is due to initial failure to understand the game rather than the training itself.

Were the Effects of Training Studied? (TRAINING)

Of the tasks reported here, only 13 were used in studies involving a training component (Appendix X). One of the earliest was done by Fry (1966) who had fifth grade girls form triads. They took turns in the speaker and listener roles in referential communication tasks involving geometric and nonsense shapes. Unfortunately, the experimenter adopted a "largely passive" role and did not attempt to actively teach the children how to improve their messages (Fry, 1966, p. 679). The children apparently were satisfied with their performance, provided "only that there were some resemblance between original and reproduction" (Flavell et al., 1968, p. 205). Clearly this was a weak training condition at best. The children in Fry's study did come to produce different types of messages, although their messages were not optimally efficient.

Shantz and Wilson (1972) carried out a more active training program with second grade children and were successful in having them produce more complete descriptions. Chandler et al. (1974) found

that training a group of emotionally disturbed children on communication skills led to improved communication and role-taking skills. Dickson (1974) developed a communication game using a slide projector to present referent sets to children. A brief training session was given halfway through 64 sets. Although the children tended to improve with practice, the improvement was not statistically significant.

A series of studies succeeded in training young listeners to ask for more information when the speaker gave inadequate messages; both training which included a "plan" of asking for more information and training which modeled questioning behavior were successful in producing improvement (Cosgrove & Patterson, 1977, 1978; Ironsmith & Whitehurst, 1978a; Patterson et al., 1978). Another series of studies showed that the types of messages which young children encoded could be affected by modeling. Nevertheless, younger children tended to model only communication style and were unable to produce contrastive messages containing only the essential information (Whitehurst, 1976; Whitehurst & Merkur, 1977).

In summary, earlier studies using the subject-to-subject design with all its complexities failed to show training effects, but later studies using the more controlled subject-to-subject designs combined with carefully planned training were successful in improving children's communication performance. Now it would be useful to show that the communication skills, thus learned, would generalize to situations where the children are communicating with other children, rather than with an experimenter.

Number of Trials on Each Task (TRIALS)

The studies are listed in Appendix Y in order of the number of trials each subject was given. The definition of trials was not straightforward. In tasks where the subject chose one of a set of pictures, each set was coded as a single trial, while those where the subject had to communicate a more complicated model or map were also coded as a single trial. Clearly, these trials differ greatly in length. The median number of trials involved in these tasks was only nine so our observations of individuals in these studies was not extensive. A histogram of the studies according to the number of trials is shown in Figure 3.

RESULTS OF CROSS-TABULATIONS AMONG VARIABLES

One useful way of looking at the variables coded for the studies is to examine changes in frequency of certain categories over time. For this purpose, the publication dates were divided into four time periods, each containing roughly the same number of cases. Interesting patterns emerge when certain variables are cross-tabulated with these time periods.

Changes in Age of Subjects (YOUNGEST) Over Time

Changes in the age of subjects show a consistent pattern over time. The age of the youngest subjects in each experiment was categorized across five age groups: preschool, grades K through 3, grades 4 through 7, high school, and adults (including college students). These groups were then tabulated with four time periods, as shown in Figure 4. The number of experiments concentrating on preschool and early elementary school age children has increased rapidly, while

| Frequency | Total Trials | Histogram |
|---|---|---|
| 11 | 1 | ********** |
| 12 | 2-3 | ********** |
| 11 | 4-5 | ********** |
| 12 | 6-7 | ********** |
| 12 | 8-9 | ********** |
| 10 | 10-11 | ********** |
| 12 | 12-13 | ********** |
| 4 | 14-15 | **** |
| 3 | 16-17 | *** |
| 1 | 18-19 | * |
| 1 | 20-21 | * |
| 2 | 22-23 | ** |
| 5 | 24-25 | ***** |
| 0 | 26-27 | |
| 0 | 28-29 | |
| 8 | 30-39 | ******** |
| 3 | 40-49 | *** |
| 1 | 50-59 | * |
| 3 | 60-69 | *** |
| 1 | 70-79 | * |
| 2 | >79 | ** |

Figure 3. Distribution of total trials in referential tasks.

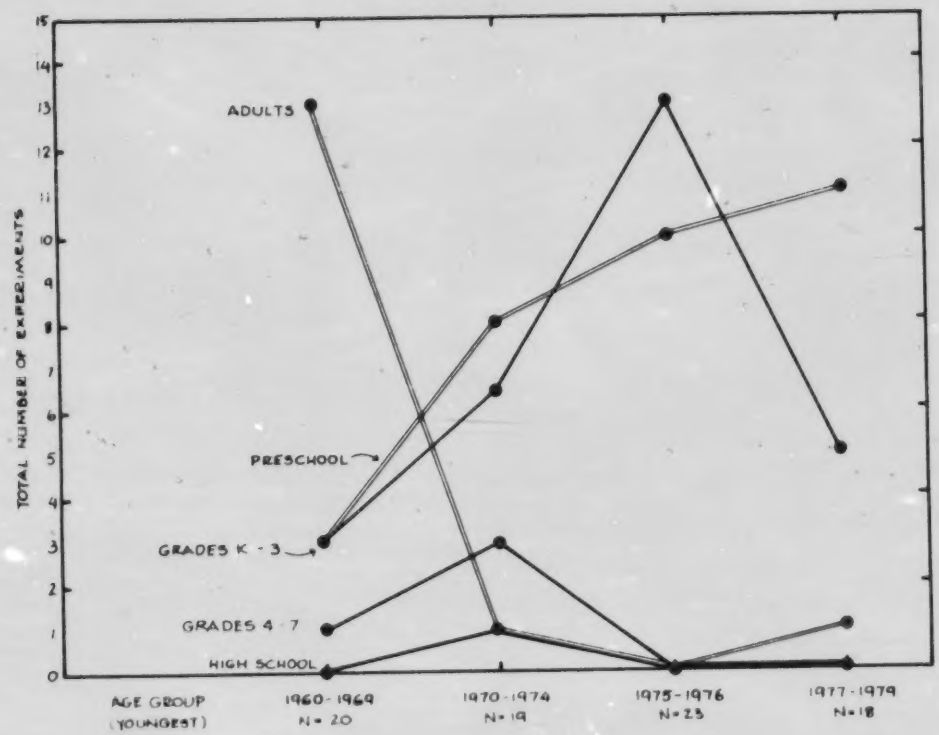


Figure 4. Changes in the frequency of use of subjects in five age groups over time.

studies of adults have decreased. Relatively few studies of children in upper elementary and high school have been done.

Changes in Who Sends to Whom (WHOWHOM) Over Time

Each of the referential tasks, coded according to who sent to whom (see Appendix T), was cross-tabulated with four time periods. The frequencies for each of the five categories (subject-to-subject, subject-to-tester, tester-to-subject, subjects-through-tester, and parent-to-child) for each time period are shown in Figure 5. Over the 20 years spanned by this review, there has been a trend away from the subject-to-subject design, the only one permitting natural interaction between the participants. At the same time, designs in which the tester serves as the tester, or more recently, as the speaker have increased.

Changes in Referent Type (REFERENT) Over Time

The types of referential tasks coded in Appendix S can be grouped into four basic types. In the first, words serve as referents; this category includes word pairs as well as tasks in which the subjects have to judge the adequacy of fixed messages. The second requires the subjects to describe one of a set of pictures having fixed attributes; this category includes tasks where pieces with fixed attributes are selected and placed in an array. In the third type of task, subjects describe one of a set of pictures having "fuzzy" attributes such as abstract figures or color chips with no obvious labels. The fourth type involves telling how to do something, where the listener must carry out a sequence of steps. Included are model building tasks, map

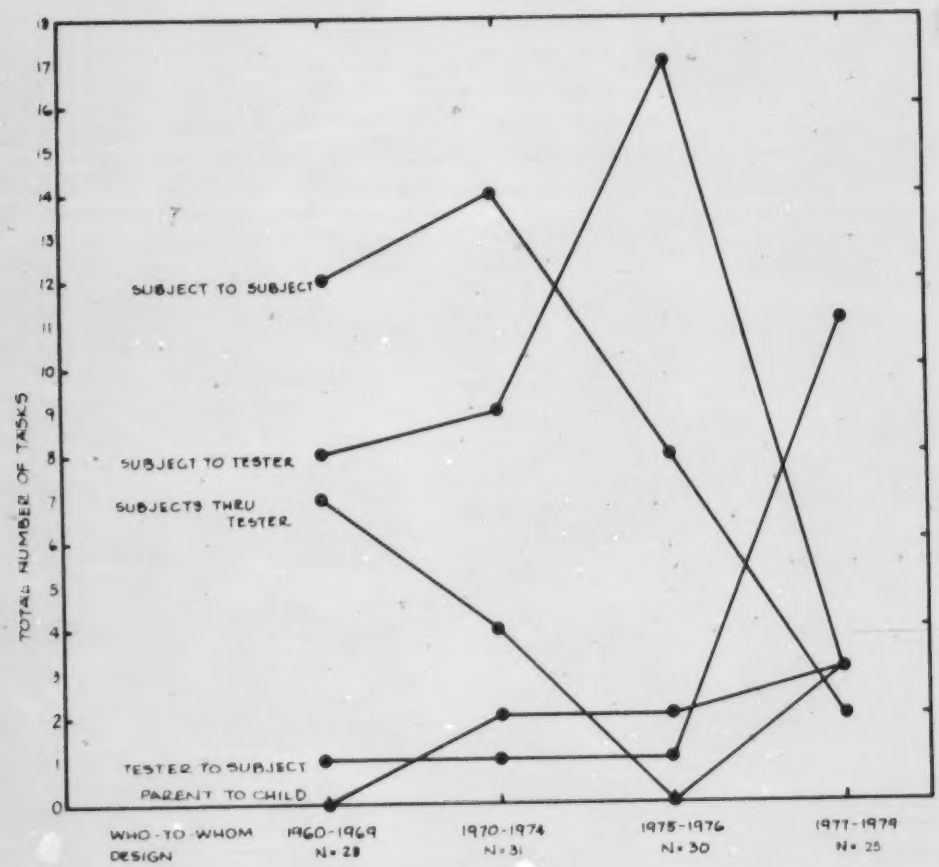


Figure 5. Changes in the frequency of use of four experimental designs over time: Who sends to whom in the study.

directions, game rules, telling how to draw symbols or trace a route on a map, or recounting game rules or events in a story. Changes over time in the types of tasks used are shown in Figure 6. The tasks involving referents with fixed attributes have greatly increased in popularity. Those using word pairs have returned to popularity, while both the tasks involving "fuzzy" attributes and those in which subjects tell how to do something complex have declined dramatically.

The pattern of changes over time in the research designs raises concerns about the ecological validity of this work. The subject-to-subject design and the telling how task most closely resemble the kinds of referential communication which might be encountered in natural settings. Children do engage in discussions about constructing a fort, for example. The ability to give directions on a map or tell how to assemble parts in a kit is called for in a number of contexts. Yet it is precisely this type of task which has received decreasing attention in referential research. Similarly, our research has focused increasingly on a more narrow age range, rather than building on early studies of younger children by including older children and adults. This preoccupation with a narrow age range has been especially unfortunate because it perpetuates the belief that young children are uniquely inadequate (or "egocentric") communicators. This belief obscures the reality of large individual differences in communication skill which continues into adulthood.

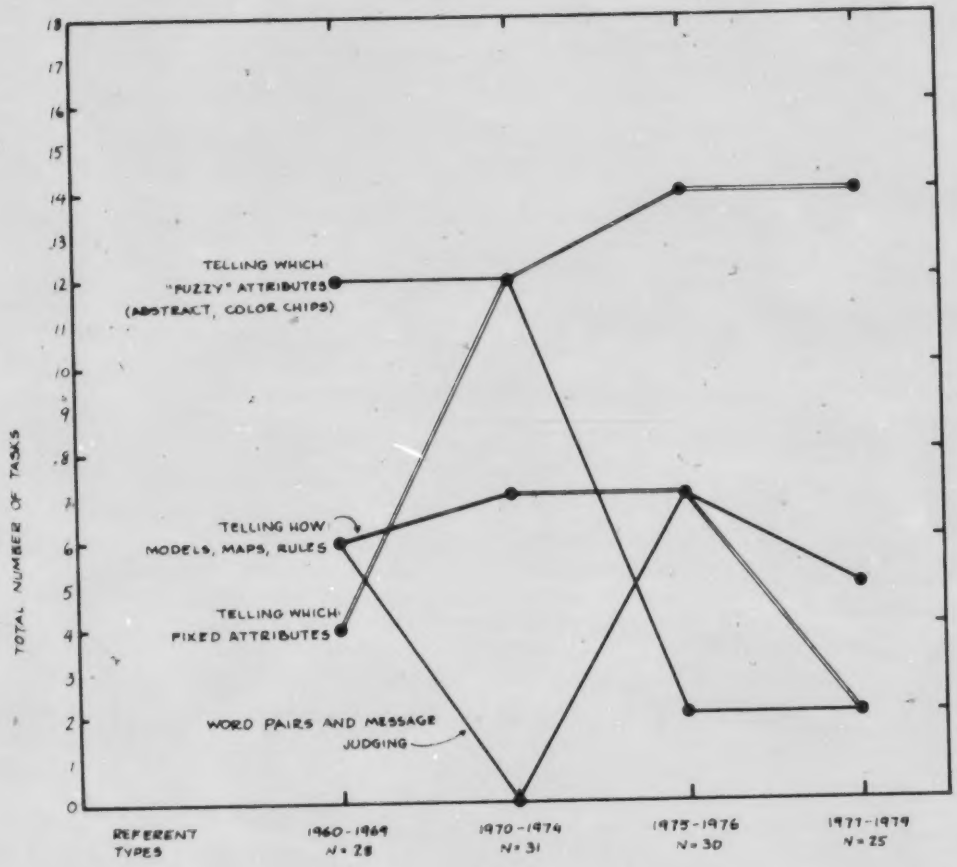


Figure 6. Changes in the frequency of use of four types of referential task over time.

# DISCUSSION

## Summary

A number of consistent results emerged from our analysis of factors related to communication performance. In almost every study where age was a variable, performance was strongly related to age, even when the age range was only 1 year. With respect to sex-related differences, it was interesting to discover that in every study where subjects were paired with each other, same-sex pairs were used. Furthermore, although a few differences were reported between male-male pairs and female-female pairs in these studies, most were higher order interactions. The total number of results showing sex-related differences appears to be considerably less than would have occurred by chance with a probability level of .05. In the absence of more compelling logic than has motivated most analyses of sex differences, it would appear that no further research on this variable is needed and that unreplicated, unhypothesized higher order interactions should not be reported. Research comparing same-sex with mixed-sex pairing might be of interest, however, given the total absence of any research on this factor.

Verbal ability (or IQ) does not appear to be strongly related to referential communication skill, although significant correlations were observed in a few studies. Differences related to socioeconomic status of the participants were found in 8 of 10 studies which included this factor, but the confounding of other factors with socioeconomic status render these results uninterpretable. Seventeen studies included some test of the egocentrism or role-taking hypothesis. However, the pattern of results gave little support to the view that referential

communication performance is influenced to any great extent by egocentrism or role taking (a conclusion also reached by Shantz, in press).

When we shift our attention from analyzing substantive findings to examining the characteristics of the studies on which these findings are based, we find a number of areas where this research has been far from "representative" (see Petrinovich, 1979). The typical study was published in Child Development or Developmental Psychology, and reported a single experiment in which approximately 60 white, English-speaking, middle-class children about 5 or 6 years old communicated on a single referential task. In most of the studies children spoke or listened to an experimenter, not to other children. In the studies where children did communicate with other children, they were often not allowed to see each other, talk back and forth, or ask questions. The typical task involved about nine trials in which one of a set of about four pictures was described or chosen. The most commonly used referents were abstract line drawings or pictures which differed on fixed attributes such as color and size.

Referential research has been concentrated on young children. We know little about the communication skills of children from age 11 until they reappear in our research as undergraduates. The communication skills of individual subjects were rarely studied in depth. Over 75% of all the tasks involved trials with less than 20 items. Similarly, only a few of the studies measured children's performance on multiple referential communication tasks, and of those doing so, only a few report the correlations across the measures. Perhaps of most concern

is the fact that our examination of the trends over time revealed an increasing use of more restrictive and unnatural experimental settings. Specifically, the use of experimental designs with two participants engaging in relatively unrestricted communication have decreased and the referential tasks have become less complex. Furthermore, the emphasis upon a restricted age range has increased rather than decreased over time.

The increased experimental control has led to a number of important findings, especially with respect to training children in communication skills. On the basis of the research reviewed here, as well as recent extensions of this work, we now have good reason to believe that a number of fundamental communication skills can be taught; we also know techniques which appear successful in teaching them. Specifically, children can be taught to make comparisons among various referents in a display and use those comparisons to encode better messages (Asher & Wigfield, in press) and they can be taught that to communicate in referential situations means to describe differences (Whitehurst & Sonnenschein, in press). Children can be taught to ask more and more specific questions when faced with uncertainty and the effect of these questions is to lead to more accurate communication between children (Patterson & Kister, in press). They can also be taught that communication failure can result from failures on the part of the speaker rather than always being due to the listener (Robinson, in press).

These additions to our understanding of children's communication skills speak well of the referential communication paradigm and bear testimony to the fact that experimental research in laboratory settings can make important contributions to our understanding of children's

communication. It is quite possible that the shift from more natural and complex communication settings to more controlled experiments was necessary to the evolution of the referential communication tradition. Nevertheless, the loss of ecological validity should not be forgotten. Perhaps, researchers using the referential communication paradigm can now take the findings from this research and apply it in more complex, natural communication settings. Fortunately, this is an opportune time to develop the use of referential communication activities in classrooms.

Referential Communication Activities in the Classroom

The Office of Education recently added speaking and listening skills to the list of "Basic Skills" under Title II (Lieb-Brilhart, 1979). This action has focused considerable attention on the need to develop curricular activities for teaching oral communication skills, as well as techniques for assessing these skills.

Believing that referential activities have potentially useful features for the classroom, Patterson and I began a search for existing curriculum materials which call upon referential communication skills (Dickson & Patterson, 1979). Our search made us aware of a difference in terminology between developmental psychology and speech communication, where referential skills are referred to as "informing" skills (see Allen & Brown, 1977, p. 251, and Larson, Backlund, Redmond, & Barbour, 1978, pp. 1-3, for definitions commonly used in the field of speech communication). In addition, we found that oral communication in the curriculum encompasses a broad range of meanings, including rhetoric, drama, poetry,

reading, as well as referential ("informing") communication. Nonetheless, our search turned up a number of commercially available communication activities similar in form to referential tasks used in research.

Several of these activities will be described briefly. One example is the game, "Talk and Take," originally developed by Olds (1968, 1973) as part of his dissertation. This game is played by two children on a checkerboard and requires the players to follow instructions written on cards. The instructions combine referential and logical meanings: "If you have a big blue circle on an orange space, you may move it two spaces." The use of conditional logic in this game resembles the research task developed by Pozner and Saltz (1974), while the referential aspect of the game resembles the array construction task used by Shantz and Wilson (1972). Another referential game, developed in a curriculum project in England, is called the "Symbol Drawing Game" (Wright, Norris, & Worsley, 1974). In this game, two children are separated by a barrier. The speaker has a booklet filled with drawings of geometric shapes and abstract figures. The speaker's task is to tell the listener how to draw the figure, and when he or she thinks the drawing is complete, it is compared with the original. This task strongly resembles the research task used by Brilhart (1965) and the description task used by Fry (1966). Other activities included a map directions task and worksheet activities in which children had to follow oral directions and write letters on particular pictures described by the speaker (Harnishfeger, 1977).

After pilot testing these materials we concluded that some research tasks were potentially more interesting to children than the commercially available materials. In particular, the following tasks were challenging to children: model building (Baldwin & Garvey, 1973; Piché, Michelin, Rubin, & Johnson, 1975; Dickson, Miyake, & Muto, 1979), map directions (Baldwin & Garvey, 1973; Ratner & Rice, 1963), placing in an array (Karabenick & Miller, 1977), and picture choosing (including the widely used abstract figures, color chips, and pictures with fixed attributes). Criteria for judging the suitability of referential communication activities in the classroom are discussed in our review of these curriculum materials (Dickson & Patterson, 1979).

In addition, it was disappointing to note that not one of the commercial curriculum activities was supported by any evaluation of its effectiveness. What children were expected to learn from these activities was rarely specified, nor were suggestions made as to how teachers might assess individual children's performance in these activities. Nevertheless, our pilot tests confirmed that these activities do appeal to teachers and children.

Research on classroom applications of referential activities may increase the validity and generalizability of our research, especially if tasks and designs which allow more natural interaction between children are used. In a recently completed study all children in intact classrooms paired up and engaged in referential communication activities patterned after the picture choosing tasks commonly used in research (Dickson, Patterson, & Tracy, 1980). For example, a class of 24 children was

divided into 12 pairs and seated at tables positioned around the edge of the room. One member of each pair was designated as the speaker and on signal each pair began communication about sets of pictures in a notebook (see Dickson, Hess, Miyake, & Azuma, 1979). After 3 minutes they stopped and speaker-listener roles were reversed on a second 3-minute trial. Then one member of each pair rotated to the next table and the process was repeated.

The teachers and children responded enthusiastically to this type of classroom activity. It engaged all of the children in rich verbal interaction, characterized by much higher frequencies of speaking, listening and questioning by the children than typically occurs in the classroom routine. A sociolinguistic analysis of the children's social and verbal interaction in this potentially "natural" classroom activity would support the educational richness of such interaction (see Cazden, 1972, ch. 10; Moffett & Wagner, 1976; Shuy & Griffin, in press). At the same time the activity yields quantifiable measures of the efficiency with which dyads and individuals across partners communicate, making it useful for research and assessment.

Future Directions for Research on Referential Communication

One of the most pressing problems for researchers and educators is the need for techniques to measure individual speaking and listening skills by observing the individual's interaction with other individuals in natural communication tasks. Perhaps the lack of attention to this problem is due to the methodological difficulties in making such measurements in view of the fact that communication accuracy scores are jointly produced by the two participants in the communication act. This dyadic score includes three sources of variance: that due to the

speaker, that due to the listener, and that due to the interaction of the speaker and listener characteristics (statistical interaction rather than social interaction). The methodological difficulties posed by this complexity may be referred to as the "two-body" problem.

Two solutions to the two-body problem are possible. The first (and most common) takes the pair as the unit of analysis, carrying out analyses of variance or correlations on the dyadic scores. The second (which has rarely been used) employs experimental designs permitting the separate assessment of individual scores.

The pair as unit of analysis. Dyadic scores of same-age pairs can be useful as long as the research focus is upon general developmental trends in communication performance. Such studies shed light on mean levels of the performance of dyads, but cannot tell us anything about the mean levels of performance of the individuals in the dyads.

Correlational analyses of dyadic performance are also possible. Taking the pair as the unit of analysis, one can analyze the generalizability (Cronbach, Gleser, Nanda, & Rajaratnam, 1972) of dyadic performance across task conditions and time without addressing the question of whether the speaker or listener skills of the members of the dyad would generalize when they were paired with other partners. Surprisingly few studies in the referential communication literature report reliability and generalizability analyses for the dyads.

The few reliability coefficients reported in the literature, however, suggest some degree of stability of dyadic performance in referential communication tasks. Baldwin and Garvey (1973) report correlations for dyadic scores across three referential tasks, ranging

from a correlation of .53 between a picture choosing task and a map task to a correlation of .40 between the picture choosing task and a model building task. Dyadic performance showed high internal consistency across all tasks, yielding a Cronbach's alpha of .72. In further analyses of the data described in Dickson (1979), I found partial correlations across four types of referents which ranged from .19 to .45, after controlling for age and verbal ability; the partial correlations across four trials ranged from .14 to .60. The internal consistency of performance of mother-child dyads on a 24-item picture describing task had an alpha coefficient of .61 in the United States and .49 in Japan (Dickson et al., 1979). Thus, dyadic performance at a given point in time appears moderately stable. No studies of the stability of dyadic communication accuracy scores across time (test-retest reliability) have been found in the literature.

Measuring the communication skills of individuals. Although dyadic scores (especially those based upon long-term relationships such as the mother-child pair) are appropriate for certain purposes, measures of individual performance in dyadic situations are essential if we are to gain insights into the underlying processes accounting for communication skill. Two types of experimental design can yield data on individual skills in speaking and listening: the first involves holding messages constant; the second involves repeated pairings of speakers and listeners (Dickson et al., 1979).

The technique of holding messages constant has been widely used in research on referential communication. Listening skill is measured

by presenting listeners with a standard set of referential messages and scoring the accuracy of the listeners' responses, thereby holding constant the variance due to speaker. Speaking skill is measured in a similar fashion: speakers are asked to communicate certain information to an experimenter who functions as a "standard listener," asking either no questions or standard probe questions. The speakers' messages are recorded and scored, either by use of a coding manual in which the essential information is counted or by use of a "jury" of listeners who respond to the recorded messages. The major limitation of this technique is that speaker-listener interaction is eliminated or highly constrained. To the extent that communication skill includes a large component of such skills as questioning, answering, and monitoring the comprehension of one's partner, this technique will yield less valid measures of speaking and listening skills.

Repeated pairings. The repeated pairings technique is more difficult to use in research, but has the advantage of permitting the speakers and listeners to engage in a more natural interaction. In these designs, each speaker is paired with a number of listeners and each listener is paired with a number of speakers. Ideally, each person in the experimental design would be paired with every other person in both the speaking and listening role. Brilhart (1965) had college students describe geometic shapes to classmates who attempted to draw the shapes. The accuracy of the drawings was scored and students received speaking and listening scores. In Brilhart's design, however, each person served as speaker only once, but served as listener 16 times,

and no speaker-listener questions were allowed. A more balanced repeated pairings which did permit a speaker-listener interaction design was employed by Dickson et al. (1979). Students alternated as speakers and listeners in a block assembly task; each student was paired with every other student, and served four times as speaker and four times as listener. In contrast to Brilhart's study which found no correlation between speaking and listening scores, Dickson et al. found a correlation of .45 between these scores in the block assembly task.

Assuming individual differences in communication skills can be reliably measured, the correlates of communication skills need to be investigated. These can be grouped into several categories which differ in their potential importance to the field. With respect to subject characteristics, no further research is needed to show that performance improves with age or that no differences exist between male-male and female-female dyads. Similarly, correlations of social class with global measures of communication accuracy will not contribute to our understanding of individual differences in communication skill, nor will demonstrations that performance is worse when tasks are more difficult. What is needed are more specific hypotheses concerning the interaction between specific task and subject characteristics, especially where these hypotheses are examined in training studies aimed at experimentally manipulating subject characteristics.

Conclusion. Our meta-analysis of research in the referential communication tradition over the past two decades revealed a trend toward more tightly controlled experimental designs. These studies

have suggested ways in which a number of communication skills can be taught, but have offered little evidence that either the skills or the training generalizes to more natural settings. Recently, increased concern has been expressed about the ecological validity of much educational and psychological research (Bronfenbrenner, 1979), leading to increased interest in more qualitative, sociolinguistic approaches to research. Coincidentally, actions by the U.S. Office of Education have placed priority upon the development of techniques for teaching and assessing oral communication skills in classrooms.

These developments offer researchers an exceptional opportunity to extend the body of knowledge gained through research on referential communication skills in experimental settings, to natural settings involving more complex and representative tasks. Presently existing curriculum materials involve referential communication skills, but little research has been done on these materials. In addition, research on referential communication skills has given little attention to techniques for assessing individual differences in speaking and listening skills in settings where children interact freely. However, until measurements are made at the individual level, our understanding of communicative performance must remain incomplete. Furthermore, in the absence of techniques for measuring individual's communication skills, the evaluation of curricular interventions intended to teach speaking and listening skills will be impossible. One can be optimistic that increased attention by researchers to children's referential communication skills in more natural settings will benefit both theory and practice in the area of oral communication skills. George

Miller once described scientific journals as "catalogs of spare parts for a machine they never build" (1956, p. 252). It is perhaps not too much to hope, however, that a more interesting oral communication curriculum might be built from the parts which have accumulated in the referential communication research literature.

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## Appendix B

## Coding Manual for Literature Review of Studies of Referential Communication

This manual describes the system used for coding studies of referential communication for a literature review. Each study was coded on a number of dimensions and the data entered into an SPSS system file. The card deck to create this file is reproduced as Appendix C. The SPSS variable names, variable labels, and value labels are fairly explicit concerning what was coded. More detailed descriptions of the procedures for coding each of the variables are described below.

Summarizing research studies is difficult because studies vary in terms of their scope and complexity. Some publications report more than one experiment, and experiments vary in the number of referential communication tasks employed. Because SPSS is not designed to handle hierarchical files (that is, files in which cases may have different numbers of variables), the approach taken in this review was to treat each referential communication task as the fundamental unit of analysis. The number of cases in the file is equal to the number of communication tasks reported in the publications reviewed. The publication and experiment within each publication is coded for each task.

YEARPUB — The year in which the article or paper was published or presented.

PUBID — Each study was given an identification number. The publications included journal articles and papers.

EXPNUMB — Each publication could report more than one experiment, where an experiment was considered to include all measures on a specific set of people. A study involving a different set of people was coded as a second experiment. (See the discussion of TASKNUMB below.)

TASKNUMB — Each experiment as defined in EXPNUMB could involve more than one referential communication task. Each task was numbered within experiment and is represented in the file as a separate case.

For example, imagine a single publication in a journal identified by PUBID equal to '13', which reported two experiments where the first experiment involved only one referential communication task, while the second involved three tasks. This single publication would appear as four cases in the file. The PUBID would be '13' each time. EXPNUMB and TASKNUMB for the four cases would be '1 1', '2 1', '2 2', and '2 3', where the last case would be read as "experiment two, task three."

JOURNAL — The journal in which the article was published, or the source of unpublished papers, dissertations, etc.

TOTALN — The total number of subjects in each experiment was coded.

AGENGRPS — The number of age groups in the experimental design.

YOUNGEST — The age in years to the nearest year of the youngest subject in the experiment. All college undergraduates were coded as 18, while adults 21 and older were coded as 35.

OLDEST — The age in years to the nearest year of the oldest subject in the experiment. All college undergraduates were coded 18, while adults 21 and older were coded as 35.

AGEFACTR — Whether age was studied and if so, whether age differences were found.

0. Age was not a factor in the experiment.
1. Age was analyzed but no relationships to communication performance were found.
2. Age was found to be related to communication performance.
3. Cannot determine whether age was analyzed in the experiment.

SEXPAIRS — Whether subject pairings were homogeneous with respect to sex.

0. Not applicable, usually implied, adult was matched with child in a speaker-listener task.
1. Subjects were paired with a same-sex partner.

2. Subjects were paired with opposite-sex partners.

9. Special note. Not codable in other categories, due to unusual features of the experiment.

SEXFACTR Whether sex was studied and if so, whether sex differences were found.

0. Sex differences were not analyzed, usually because all subjects were of the same sex.

1. Sex differences were analyzed but no relationships to communication performance were found.

2. Sex was found to be related to communication performance.

3. Cannot determine whether sex differences were analyzed in the experiment, usually because males and females were included in the design, but no mention of analysis by sex is made.

SES Whether socioeconomic status was reported.

0. SES of subjects was not reported.

1. Subjects were low SES.

2. Subjects were middle SES.

3. Subjects were upper middle SES.

9. Special note.

12. A low SES group was compared to a middle SES group.

13. A low SES group was compared to a high SES group.

23. A middle SES group was compared to a high SES group.

SESFACTR Whether SES was studied and if so, whether SES differences were found.

0. SES differences were not analyzed.
1. SES differences were analyzed and none found.
2. SES differences were found.
3. Cannot determine whether SES differences were analyzed in the experiment.

IQ Whether IQ or ability was measured.

0. No measure of IQ reported.
1. IQ of subjects was below 90.
2. IQ of subjects was between 90-110.
3. IQ of subjects was over 110.
9. Special note. Not codable in other categories, due to unusual features of the experiment.
12. A low IQ group was compared with a middle IQ group.
13. A low IQ group was compared with a high IQ group.
23. A middle IQ group was compared with a high IQ group.

IQFACTR Whether IQ was studied and if so, whether IQ differences were found.

0. No IQ measures were reported.
1. IQ measures were analyzed but no relationships to communication performance were found.
2. IQ was related to communication performance.
3. Cannot determine whether IQ differences were analyzed in the experiment.

ECOROLE — Whether egocentrism or roletaking was measured.

0. No measure of egocentrism or role taking was reported.
1. Different listener technique was used.
2. Self-encoding was compared to encoding for others.
3. Correlations between measures of egocentrism and measures of communication.
9. Special note. Not codable in other categories, due to unusual features of the experiment.

SPECIAL — Special subject characteristics, as distinguished from native, English-speaking Americans.

0. No special characteristics reported.
1. The subjects' race was other than white.
2. The language used was not English.
3. The participants had some physical or emotional handicap.
5. The subjects were bilingual.
9. Special note. Not codable in other categories due to unusual features of the experiment.

REFERENT — The type of referent used in the communication task.

1. The Krauss and Glucksberg abstract figures were referents.
2. An array of pictures other than the Krauss and Glucksberg figures were referents.
3. Model building task.

4. Map tracing task.
5. Messages were referents and subjects judged their adequacy.
6. Word pairs were used and subjects had to choose better word.
7. Game rules served as information to be communicated.
8. Symbols to be drawn were the referents.
9. Special note: Usually implies more than one type of referent or a combination of referent types were used in the experiment.
10. Color chips were the referents.
11. Referents were to be placed in an array.

WHOWHOM Who sent the message to whom.

1. Subject-to-Subject: one subject sent messages to another subject.
2. Subject-to-Experimenter: one subject sent messages to the experimenter.
3. Experimenter-to-Subject: the experimenter sent messages to the subject.
4. Subjects-through-Experimenter: the experimenter recorded the speakers' messages and then presented them back to the same group as listeners.
5. Parent-Child: parent and child dyads formed a speaker-listener team.

9. Special note. Usually implied that speaker and listener roles may have been reversed as part of the experimental design. Where the speaker became the listener and the listener took the speaker role.

CHANNEL — Channel of communication: oral, written, non-verbal, or sign language.

1. Subjects used a spoken channel.
2. Subjects communicated through written messages.
3. The channel was non-verbal.
4. Subjects used sign language.
9. Special note. Usually implied there was a combination of channels used in the experimental design.

CONSTRTS — What types of constraints were placed upon communication between the subjects?

-1. Not applicable.
0. No constraints on communication: subjects could see each other, talk back and forth, ask questions.
1. Visual barrier only: subjects could not see each other but were allowed free oral communication otherwise.
2. Speakers were restricted to one word messages when communicating with listeners.

3. Listeners were not allowed to ask questions or were restricted to limited questioning. (Often a visual barrier was also used.)
4. The experimental design varied constraints as a part of the study.
5. Subjects communicated with an experimenter and were limited to one word or very short messages.
6. Subjects communicated through an experimenter and were limited to one word or very short messages.
7. Not applicable: Other subject-to-tester designs.
8. Not applicable: Other tester-to-subject designs.
9. Not applicable: Other subjects-through-tester designs.
99. Special note.

PRACTICE — Whether the participants were given practice trials.

0. No practice trials.
1. Practice given.

TRIALS — The number of trials or items in the communication task.

TRAINING — Whether the participants received training.

0. No training given.
1. Training given.
9. Special note.

Supplemental Variables. Several variables were computed from the variables defined above. These variables were then used in crosstabulations to examine relationships across time and across the age range and the number of subjects in the experiments.

YEARPUB2 — The year in which the article was published, grouped in 2 year intervals, beginning with 1959-1960.

YEARPUB4 — The year in which the article was published, grouped into intervals forming four groups each including about one-fourth of the articles: 1960-1969, 1970-1974, 1975-1976, and 1977-1979.

AGERANGE — The age of the oldest subjects in years minus the age of the youngest subjects, with zero entered for single age experiments.

AGEGROUP — The studies were divided into five age groups on the basis of the age of the youngest subjects: preschool (1 through 5 years old), grades K through 3 (6 through 9 years old), grades 4 through 7 (10 through 13 years old), high school (14 through 17 years old), and adult (18 years and older).

TOTALN4 — The total number of subjects in the experiment divided into four groups, each including about one-fourth of the experiments in this review.

# Appendix C

## Computer Cards for SPSS File

```
RUN NAME        S8710FIL REFERENTIAL COMMUNICATION LITERATURE REVIEW N = 114 TASK
VARIABLE LIST
                YEARPUB,PUPID,EXPNUMB,TASKNUMB,JOURNAL,TOTALN,
                AGENGRPS,YOUNGEST,OLDEST,AGEFACTR,SEXPAIRS,SEXFACTR,SES,SESFACTR,
                IQ,IQFACTR,EGOROLE,SPECIAL,REFERENT,WHOWHOM,CHANNEL,
                CONSTRTS,PRACTICE,TRIALS,TRAINING
INPUT FORMAT    FIXED
                (F4.0,F3.0,2F2.0,2F4.0,19F3.0)
N OF CASES      114

COMMENT         ********* COMPUTED CATEGORIES FOR SUMMARIZING DATA **************

COMPUTE         YEARPUB2 = YEARPUB
RECODE          YEARPUB2 (1959=1960)(1961=1962)(1963=1964)(1965=1966)(1967=1968)
                (1969=1970)(1971=1972)(1973=1974)(1975=1976)(1977=1978)/
VAR LABELS      YEARPUB2,YEAR PUBLISHED GROUPED EVERY TWO YEARS/
VALUE LABELS    YEARPUB2
                (1960)1959-60 COMBINED (1962)1961-62 COMBINED
                (1964)1963-64 COMBINED (1966)1965-66 COMBINED
                (1968)1967-68 COMBINED (1970)1969-70 COMBINED
                (1972)1971-72 COMBINED (1974)1973-74 COMBINED
                (1976)1975-76 COMBINED (1978)1977-78 COMBINED/

COMPUTE         YEARPUB4 = YEARPUB
RECODE          YEARPUB4 (1960 THRU 1969 = 1) (1970 THRU 1974 = 2)
                         (1975 THRU 1976 = 3) (1977 THRU 1979 = 4)/
VAR LABELS      YEARPUP4,YEAR PUBLISHED GROUPED INTO 4 PERIODS/
VALUE LABELS    YEARPUB4 (1)1960-69 (2)1970-74 (3)1975-76 (4)1977-79/

COMPUTE         TOTALN4 = TOTALN
VAR LABEL       TOTALN4,TOTALN DIVIDED INTO QUARTILES/
RECODE          TOTALN4 (4 THRU 34 = 1) (35 THRU 52 = 2) (56 THRU 94 = 3)
                  (96 THRU HI = 4)
VALUE LABELS    TOTALN4 (1)N =      4 - 34 (2)N =     35 - 52
                  (3)N =     56 - 94 (4)N =     96 - 960/

COMPUTE         AGERANGE = OLDEST - YOUNGEST
IF              (AGERANGE LT 0) AGERANGE = 0
VAR LABELS      AGERANGE,OLDEST MINUS YOUNGEST/
VALUE LABELS    AGERANGE (0)ALL SAME AGE (1)ONE YEAR APART (2)TWO YEARS APART
                (3)THREE YEARS APART (4)FOUR YEARS APART (5)FIVE YEARS APART
                (6)SIX YEARS APART (7)SEVEN YEARS APART (8)EIGHT YEARS APART/

IF              (OLDEST EQ 0) OLDERAGE = YOUNGEST
IF              (OLDEST NE 0) OLDERAGE = OLDEST
VAR LABELS      OLDERAGE,OLDEST AGE INCLUDING SINGLE AGE STUDIES/

COMMENT         STUDIES ARE ARRANGED IN ALPHABETICAL ORDER IN DATA DECK.
COMPUTE         AID = SEQNUM
VAR LABELS      AID ID NUMBER IN ALPHABETIC ORDER/
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COMMENT         ********* END OF COMPUTED VARIABLES ******************************

VAR LABELS      YEARPUB,YEAR IN WHICH PUBLISHED OR PRESENTED/
                PUBID,PUBLICATION: JOURNAL ARTICLE, PAPER/
                EXPNUMB,EXPERIMENT NUMBER WITHIN PUBLICATION/
                TASKNUMB,TASK NUMBER WITHIN SINGLE EXPERIMENT/
                JOURNAL,JOURNAL PUBLISHED IN OR OTHER SOURCE/
                TOTALN,TOTAL NUMBER OF SUBJECTS IN EXPERIMENT/
                AGENGRPS,NUMBER OF AGE GROUPS IN EXPERIMENT/
                YOUNGEST,AGE OF YOUNGEST SS IN YEARS/
                OLDEST,AGE OF OLDEST SS IN YEARS/
                AGEFACTR,WAS AGE ANALYZED? WAS IT SIGNIFICANT?/
                SEXPAIRS,WERE THE PAIRS SAME OR OPPOSITE SEX?/
                SEXFACTR,WAS SEX ANALYZED? WAS IT SIGNIFICANT?/
                SES,SOCIOECONOMIC STATUS REPORTED?/
                SESFACTR,WAS SES ANALYZED? WAS IT SIGNIFICANT?/
                IQ,ABILITY OR IQ MEASURE REPORTED?/
                IQFACTR,WAS IQ ANALYZED? WAS IT SIGNIFICANT?/
                EGOROLE,EGOCENTRISM OR ROLE-TAKING MEASURED?/
                SPECIAL,SPECIAL SUBJECT CHARACTERISTICS/
                REFERENT,WHAT WAS THE TYPE OF REFERENT?/
                WHOWHOM,S SEND S,S SEND E,E SEND S,M SEND C?/
                CHANNEL,HOW DID SS COMMUNICATE?/
                CONSTRTS,ANY CONSTRAINTS ON COMMUNICATION?/
                PRACTICE,WAS THERE A PRACTICE SESSION?/
                TRIALS,NUMBER OF TRIALS IN TASK/
                TRAINING,WAS THERE A TRAINING SESSION?/

VALUE LABELS    PUBID
                (001)ASHER       DP 76
                (002)ASHER &P JEDP 75
                (003)BALDWIN,MA CD 71
                (004)ASHER&ODEN DP 76
                (005)BALDWIN& AERJ 73
                (006)BEARISON&C DP 75
                (007)BEARISON&L CD 77
                (008)CHAPANIS & HF 72
                (009)COHEN & KL CD 68
                (011)COSGROVE & DP 77
                (012)DANKS       CP 70
                (013)FEFFER&S JPSP 66
                (014)FORD & O JECP 75
                (015)FRIEDENBRG CD 77
                (016)FRY         CD 66
                (017)GAPMIZA&A MPQ 76
                (019)GENESEE &  CD 75
                (020)GLUCKSPG JECP 66
                (021)HOEMAN      CD 72
                (022)HEIDER   JPSP 71
                (023)HIGGINS   GPM 77
                (024)GREENSPAN PAP 75
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                (025)GRUSHCOW&  CD 71
                (026)HOY        DP 75
                (028)JOHNSTON& BJP 68
                (029)KRAUSS & G CD 69
                (030)CHANDLER&G DP 74
                (031)ROSENBRG& REV 66
                (032)KARABENICK&CD 77
                (033)KRAUSS &  MPQ 68
                (034)KRAUSS&  JPSP 68
                (035)KRAUSS & JPSP 66
                (036)LONGHURST& CD 71
                (037)KRAUSS& JVLVB 67
                (038)MARATSOS   CD 73
                (039)MEISSNER  JEP 75
                (040)MEISSNER   DP 78
                (041)MEISSNER & DP 76
                (042)MENIG-PETE CD 75
                (043)PETERSON & CD 72
                (044)PICHE &    CD 75
                (045)POZNER &   DP 74
                (046)RATNER &R REC 63
                (047)ROBINSON & DP 76
                (048)ROBINSON & DP 77
                (049)RUBIN      DP 72
                (050)RUBIN      CD 73
                (051)SAMUELS& JEDP 69
                (052)SCHMIDT &  CD 70
                (053)SHANTZ & W CD 72
                (054)SUSSWEIN & CD 75
                (055)TRIANDIS   HR 60
                (057)WHITEHURST CD 76
                (058)WHITEHRST& CD 77
                (059)WOOD &    PJP 75
                (060)BRILHART   JC 65
                (063)FISHBEIN& MPQ 71
                (064)JOHNSON&G  LS 68
                (065)COSGROVE & CD 78
                (066)IRONSMITH& CD 78
                (067)PATTERSON& DP 78
                (068)DICKSON   DIS 74
                (069)DICKSON &  CD 79
                (070)IRONSMITH& DP 78
                (071)DICKSON&M COG 77
                (072)DICKSON&M PAP 79/

VALUE LABELS    EXPNUMB (1)1ST EXPM IN PUB (2)2ND EXPM IN PUB (3)3RD EXPM IN PUB
                        (4)4TH EXPM IN PUB (5)5TH EXPM IN PUB (6)6TH EXPM IN PUB/
                TASKNUMB (1)1ST TASK IN EXPM (2)2ND TASK IN EXPM
                         (3)3RD TASK IN EXPM (4)4TH TASK IN EXPM
                         (5)5TH TASK IN EXPM (6)6TH TASK IN EXPM/

VALUE LABELS    JOURNAL
```

```
  (01)CHILD DEVELOPMENT
  (02)DEVELOPMENTAL PSYCH
  (03)J OF ED PSYCH
  (04)J PERS & SOCIAL PSYC
  (05)BRITISH J OF PSYCH
  (06)MERRILL-PALMER QTLY
  (07)J OF VERBAL LEARNING
  (08)HUMAN RELATIONS
  (09)J OF COMMUNICATION
  (10)LANGUAGE & SPEECH
  (11)PSYCH REVIEW
  (12)COGNITIVE PSYCH
  (13)PSYCH RECORD
  (14)GENETIC PSYCH MONOGR
  (15)COMMUNICATION MONOG
  (16)PSYCH BULLETIN
  (17)AMER ED RESEARCH J
  (18)HUMAN FACTORS
  (19)J OF EXPER CHILD PSY
  (20)MISC: TECH REP, BULL
  (21)PAPER AT CONFERENCE
  (22)DISSERTATION
  (23)COGNITION/

AGENGRPS (1)ONE AGE GROUP (2)TWO AGE GROUPS (3)THREE AGE GROUPS
    (4)FOUR AGE GROUPS (5)FIVE AGE GROUPS (6)SIX AGE GROUPS/
YOUNGEST, OLDEST, OLDERAGE (0)YOUNGEST = OLDEST (1)ONE YEAR OLD
  (2)TWO YEARS OLD  (3)THREE YEARS OLD (4)FOUR YEARS OLD
  (5)FIVE YEARS OLD (6)SIX YEARS OLD (7)SEVEN YEARS OLD
  (8)EIGHT YEARS OLD (9)NINE YEARS OLD (10)TEN YEARS OLD
  (11)ELEVEN YEARS OLD (12)TWELVE YEARS OLD
  (13)THIRTEEN YEARS OLD (14)FOURTEEN YEARS OLD
  (15)FIFTEEN YEARS OLD (16)SIXTEEN YEARS OLD
  (17)SEVENTEEN YEARS OLD (18)COLLEGE UNDERGRAD
  (35)ADULTS 21 & UP/
AGEFACTR (0)AGE NOT A FACTOR      (1)AGE NOT RELATED
         (2)AGE DIF FOUND (3)NOT SURE IF ANALYZED/

SEXPAIRS (0)SUBJECTS NOT PAIRED  (1)HOMOGENEOUS PAIRS
      (2)HETEROGENEOUS PAIRS   (9)SPECIAL NOTE/
SEXFACTR (0)SEX NOT ANALYZED     (1)SEX DIF NOT FOUND
         (2)SEX DIF FOUND         (3)NOT SURE IF ANALYZED/

SES (0)NOT REPORTED       (1)LOW
    (2)MIDDLE             (3)UPPER MIDDLE
    (9)SPECIAL NOTE       (12)LOW VS MIDDLE
    (13)LOW VS HIGH (23)MIDDLE VS HIGH/
SESFACTR (0)SES NOT ANALYZED      (1)SES DIFF NOT FOUND
         (2)SES DIF FOUND         (3)NOT SURE IF ANALYZED/

IQ       (0)NO MEASURE         (1)LOW <90 IQ
         (2)MIDDLE 90-110 IQ   (3)HIGH >110 IQ
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        (99)SPECIAL NOTE        (12)LOW VS MIDDLE
        (13)LOW VS HIGH         (23)MIDDLE VS HIGH/
IQFACTR (0)NO IQ MEASURE            (1)IQ DIF NOT FOUND
        (2)IQ DIF FOUND             (3)NOT SURE IF ANALYZED/

EGOROLE (0)NO MEASURE  (1)DIFFERENT LISTENER
  (2)SELF-ENCODE VS OTHER (3)CORRELATIONAL (9)SPECIAL NOTE/

SPECIAL (0)NO SPECIAL CHARACT(1)RACE NOT WHITE
        (2)NOT ENGLISH        (3)HANDICAPPED
        (5)BILINGUAL  (9)SPECIAL NOTE/

REFERENT (0)NOT APPLICABLE    (1)KRAUSS ABSTRACT FIGR
         (2)PICTURE CHOOSING  (3)MODEL BUILDING
          (4)MAP DIRECTIONS    (5)MESSAGE JUDGING
         (6)WORD PAIRS        (7)GAME RULES
         (8)SYMBOL DRAWING    (9)EVENT RETELLING
         (10)COLOR CHIPS      (11)PLACING IN AN ARRAY/

 WHOWHOM (1)SUBJECT TO SUBJECT (2)SUBJECT TO TESTER
   (3)TESTER TO SUBJECT (4)SUBJECTS THRU TESTER
   (5)PARENT TO CHILD/

 CHANNEL (0)NOT APPLICABLE     (1)SPOKEN
         (2)WRITTEN            (3)NONVERBAL
         (4)SIGN LANGUAGE      (9)SPECIAL NOTE/

 CONSTRTS (-1)NOT APPLICABLE (0)NO RESTRICTIONS (1)VISUAL BARRIER
          (2)ONE WORD: S TO S (3)NO OR FEW QUESTIONS
          (4)VARIED CONSTRAINTS  (5)ONE WORD: S TO T
          (6)ONE WORD: S THRU T  (7)NOT APPLIC: S TO T
          (8)NOT APPLIC: T TO S  (9)NOT APPLIC: S THRU T
          (99)SPECIAL NOTE/

  TRIALS  (0)ONE LONG SESSION   (1)ONE TRIAL
          (2)TWO TRIALS         (3)THREE TRIALS
          (4)FOUR TRIALS        (99)99 OR MORE TRIALS/
  PRACTICE (0)NO PRACTICE TRIALS (1)PRACTICE GIVEN/
  TRAINING (0)NO TRAINING (1)TRAINING GIVEN/
```

```
READ INPUT DATA
1977  1 1 1   2 90  3  7 11  2  0  1  2  0  3  3  0  0  5  2  1  5  0 15  0
1976  1 2 1   2 45  3  7 11  2  0  1  2  0  3  3  0  0  5  2  1  5  1 12  0
1976  4 1 1   2 64  2  8 10  1  0  0  2  0  2  3  2  0  6  4  1  6  1 30  0
1975  2 1 1   3 60  3  7 11  2  0  0  2  0  2  3  0  0  6  2  1  5  1 30  0
1975  2 2 1   3 30  3  7 11  2  0  0  2  0  2  3  0  0  6  2  1  5  1 30  0
1975  2 3 1   3 42  3  7 11  1  0  0  2  0  2  1  0  0  6  2  1  1  0 10  0
1973  5 1 1  17 96  1  9  0  0  1  1 12  2  2  3  0  1  2  1  1  1  0  4  0
1973  5 1 2  17 96  1  9  0  0  1  1 12  2  2  3  0  1  3  1  1  1  0  2  0
1973  5 1 3  17 96  1  9  0  0  1  1 12  2  2  3  0  1  4  1  1  1  0 10  0
1971  3 1 1   1 96  1 10  0  0  1  1 12  2  2  2  0  1  2  1  1  1  0  2  0
1975  6 1 1   2 37  1  6  0  0  0  2  3  0 99  3  1  0  7  2  1  7  0  2  0
```

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1977 | 7 | 1 | 1 | 1 | 90 | 3 | 5 | 9 | 2 | 0 | 1 | 2 | 0 | 2 | 3 | 0 | 0 | 5 | 3 | 1 | 8 | 0 | 12 | 0 |
| 1965 | 60 | 1 | 1 | 9 | 34 | 1 | 18 | 0 | 0 | 1 | 2 | 2 | 0 | 99 | 3 | 0 | 0 | 8 | 1 | 1 | 3 | 0 | 17 | 0 |
| 1974 | 30 | 1 | 1 | 2 | 125 | 1 | 8 | 15 | 0 | 1 | 1 | 1 | 0 | 2 | 3 | 3 | 3 | 11 | 2 | 1 | 7 | 0 | 9 | 1 |
| 1974 | 30 | 1 | 2 | 2 | 48 | 1 | 9 | 14 | 0 | 1 | 1 | 1 | 0 | 2 | 3 | 3 | 3 | 11 | 2 | 1 | 7 | 1 | 9 | 1 |
| 1972 | 8 | 1 | 1 | 18 | 20 | 1 | 14 | 18 | 0 | 1 | 0 | 0 | 0 | 99 | 3 | 0 | 1 | 4 | 1 | 9 | 4 | 0 | 1 | 0 |
| 1972 | 8 | 1 | 2 | 18 | 20 | 1 | 14 | 18 | 0 | 1 | 0 | 0 | 0 | 99 | 3 | 0 | 1 | 3 | 1 | 9 | 4 | 0 | 1 | 0 |
| 1968 | 9 | 1 | 1 | 1 | 240 | 3 | 8 | 12 | 2 | 1 | 1 | 2 | 0 | 99 | 3 | 0 | 0 | 6 | 1 | 1 | 2 | 0 | 30 | 0 |
| 1977 | 11 | 1 | 1 | 2 | 96 | 4 | 4 | 10 | 2 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 8 | 1 | 12 | 1 |
| 1978 | 65 | 1 | 1 | 1 | 40 | 1 | 6 | 0 | 0 | 0 | 3 | 2 | 0 | 2 | 3 | 0 | 0 | 2 | 3 | 1 | 8 | 1 | 18 | 1 |
| 1978 | 65 | 1 | 2 | 1 | 40 | 1 | 6 | 0 | 0 | 0 | 3 | 2 | 0 | 2 | 3 | 0 | 0 | 2 | 3 | 1 | 8 | 1 | 12 | 1 |
| 1970 | 12 | 1 | 1 | 12 | 120 | 1 | 18 | 0 | 0 | 9 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 4 | 2 | 6 | 0 | 22 | 0 |
| 1970 | 12 | 1 | 2 | 12 | 120 | 1 | 18 | 0 | 0 | 9 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 4 | 2 | 6 | 0 | 22 | 0 |
| 1974 | 68 | 1 | 1 | 22 | 96 | 3 | 4 | 8 | 2 | 1 | 1 | 23 | 1 | 23 | 2 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 64 | 1 |
| 1979 | 69 | 1 | 1 | 1 | 125 | 1 | 4 | 0 | 0 | 0 | 1 | 23 | 2 | 23 | 2 | 0 | 2 | 2 | 5 | 1 | 0 | 1 | 12 | 0 |
| 1979 | 69 | 1 | 2 | 1 | 125 | 1 | 4 | 0 | 0 | 0 | 1 | 23 | 2 | 23 | 2 | 0 | 2 | 2 | 5 | 1 | 0 | 1 | 12 | 0 |
| 1977 | 71 | 1 | 1 | 23 | 150 | 1 | 18 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 2 | 7 | 0 | 64 | 0 |
| 1979 | 72 | 1 | 1 | 20 | 16 | 1 | 18 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 1 | 1 | 0 | 8 | 0 |
| 1979 | 72 | 1 | 2 | 20 | 16 | 1 | 18 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 1 | 7 | 0 | 64 | 0 |
| 1979 | 72 | 1 | 3 | 20 | 16 | 1 | 18 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 2 | 7 | 0 | 16 | 0 |
| 1966 | 13 | 1 | 1 | 4 | 36 | 1 | 18 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 6 | 1 | 1 | 2 | 0 | 3 | 0 |
| 1966 | 13 | 1 | 2 | 4 | 36 | 1 | 18 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 6 | 1 | 1 | 2 | 0 | 36 | 0 |
| 1971 | 63 | 1 | 1 | 6 | 96 | 2 | 6 | 10 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 6 | 0 |
| 1971 | 63 | 2 | 1 | 6 | 96 | 2 | 6 | 10 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 6 | 0 |
| 1975 | 14 | 1 | 1 | 19 | 50 | 2 | 5 | 7 | 2 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 3 | 0 | 12 | 0 |
| 1975 | 14 | 2 | 1 | 19 | 40 | 2 | 4 | 7 | 2 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 3 | 0 | 15 | 0 |
| 1977 | 15 | 1 | 1 | 1 | 66 | 4 | 2 | 6 | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 11 | 3 | 1 | 8 | 0 | 8 | 0 |
| 1966 | 16 | 1 | 1 | 1 | 64 | 1 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 2 | 2 | 1 | 7 | 1 | 3 | 1 |
| 1966 | 16 | 1 | 2 | 1 | 64 | 1 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 8 | 2 | 1 | 7 | 1 | 1 | 1 |
| 1966 | 16 | 1 | 3 | 1 | 64 | 1 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 7 | 2 | 1 | 7 | 1 | 1 | 1 |
| 1976 | 17 | 1 | 1 | 6 | 48 | 2 | 6 | 7 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 7 | 1 | 10 | 0 |
| 1976 | 17 | 1 | 2 | 6 | 48 | 2 | 6 | 7 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 7 | 1 | 10 | 0 |
| 1976 | 17 | 1 | 3 | 6 | 48 | 2 | 6 | 7 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 7 | 1 | 10 | 0 |
| 1975 | 19 | 1 | 1 | 1 | 100 | 3 | 5 | 7 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 7 | 1 | 1 | 3 | 1 | 1 | 0 |
| 1966 | 20 | 1 | 1 | 19 | 25 | 2 | 3 | 5 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 8 | 0 |
| 1975 | 24 | 1 | 1 | 21 | 120 | 6 | 6 | 11 | 2 | 0 | 3 | 2 | 0 | 2 | 3 | 3 | 3 | 11 | 2 | 1 | 7 | 0 | 9 | 0 |
| 1975 | 24 | 2 | 1 | 21 | 125 | 1 | 8 | 15 | 0 | 0 | 3 | 1 | 0 | 2 | 3 | 3 | 3 | 11 | 2 | 1 | 7 | 0 | 2 | 0 |
| 1971 | 25 | 1 | 1 | 1 | 24 | 1 | 4 | 5 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 8 | 1 | 3 | 0 |
| 1971 | 22 | 1 | 1 | 4 | 143 | 1 | 10 | 0 | 0 | 0 | 1 | 12 | 2 | 0 | 0 | 0 | 1 | 1 | 4 | 1 | 9 | 1 | 5 | 0 |
| 1971 | 22 | 1 | 2 | 4 | 141 | 1 | 10 | 0 | 0 | 0 | 1 | 12 | 2 | 2 | 3 | 0 | 1 | 1 | 4 | 1 | 9 | 1 | 5 | 0 |
| 1977 | 23 | 1 | 1 | 14 | 192 | 4 | 10 | 14 | 2 | 1 | 1 | 12 | 1 | 2 | 2 | 1 | 0 | 4 | 1 | 9 | 4 | 0 | 10 | 0 |
| 1972 | 21 | 1 | 1 | 1 | 80 | 2 | 8 | 11 | 2 | 1 | 1 | 2 | 0 | 12 | 3 | 1 | 3 | 2 | 1 | 4 | 3 | 0 | 3 | 0 |
| 1972 | 21 | 1 | 2 | 1 | 80 | 2 | 8 | 11 | 2 | 1 | 1 | 2 | 0 | 12 | 3 | 1 | 3 | 2 | 1 | 4 | 3 | 0 | 12 | 0 |
| 1972 | 21 | 1 | 3 | 1 | 80 | 2 | 8 | 11 | 2 | 1 | 1 | 2 | 0 | 12 | 3 | 1 | 3 | 7 | 1 | 4 | 3 | 1 | 2 | 0 |
| 1975 | 26 | 1 | 1 | 2 | 72 | 3 | 5 | 9 | 2 | 1 | 1 | 1 | 0 | 2 | 3 | 0 | 0 | 3 | 1 | 1 | 4 | 0 | 2 | 0 |
| 1978 | 66 | 1 | 1 | 1 | 64 | 4 | 5 | 11 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 8 | 1 | 20 | 1 |
| 1978 | 70 | 1 | 1 | 2 | 96 | 2 | 5 | 9 | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 8 | 0 | 30 | 0 |
| 1968 | 64 | 1 | 1 | 10 | 4 | 1 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 4 | 1 | 9 | 0 | 40 | 0 |
| 1968 | 28 | 1 | 1 | 5 | 56 | 1 | 5 | 0 | 0 | 1 | 1 | 12 | 2 | 2 | 3 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 6 | 0 |
| 1977 | 32 | 1 | 1 | 1 | 144 | 3 | 5 | 7 | 2 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 11 | 1 | 1 | 4 | 0 | 4 | 0 |
| 1969 | 29 | 1 | 1 | 1 | 74 | 4 | 5 | 10 | 2 | 1 | 3 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 8 | 0 |
| 1968 | 33 | 1 | 1 | 6 | 80 | 2 | 7 | 12 | 2 | 1 | 0 | 12 | 2 | 0 | 0 | 0 | 1 | 1 | 4 | 1 | 9 | 1 | 1 | 0 |
| 1968 | 34 | 1 | 1 | 4 | 52 | 1 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 10 | 4 | 1 | 6 | 0 | 24 | 0 |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1968 | 34 | 1 | 2 | 4 | 52 | 1 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 10 | 4 | 2 | 6 | 0 | 72 | 0 |
| 1966 | 35 | 1 | 1 | 4 | 48 | 1 | 18 | 35 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 1 | 1 | 1 | 4 | 0 | 16 | 0 |
| 1967 | 37 | 1 | 1 | 7 | 30 | 1 | 18 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 2 | 1 | 7 | 0 | 12 | 0 |
| 1967 | 37 | 1 | 2 | 7 | 30 | 1 | 18 | 35 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | 1 | 1 | 0 | 12 | 0 |
| 1971 | 36 | 1 | 1 | 1 | 28 | 2 | 2 | 5 | 2 | 1 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 1 | 9 | 9 | -1 | 0 | 9 | 0 |
| 1971 | 36 | 1 | 2 | 1 | 28 | 2 | 2 | 5 | 2 | 1 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 1 | 9 | 9 | -1 | 0 | 9 | 0 |
| 1973 | 38 | 1 | 1 | 1 | 24 | 3 | 3 | 5 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 2 | 2 | 1 | 7 | 0 | 12 | 0 |
| 1975 | 39 | 1 | 1 | 3 | 92 | 2 | 7 | 9 | 2 | 1 | 2 | 1 | 0 | 2 | 3 | 0 | 1 | 2 | 3 | 1 | 8 | 0 | 10 | 0 |
| 1975 | 39 | 1 | 2 | 3 | 92 | 2 | 7 | 9 | 2 | 1 | 2 | 1 | 0 | 2 | 3 | 0 | 1 | 2 | 1 | 1 | 1 | 0 | 10 | 0 |
| 1978 | 40 | 1 | 1 | 2 | 56 | 2 | 5 | 8 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 1 | 9 | 0 | 14 | 0 |
| 1978 | 40 | 1 | 2 | 2 | 56 | 2 | 5 | 8 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 5 | 4 | 1 | 9 | 0 | 14 | 0 |
| 1976 | 41 | 1 | 1 | 2 | 39 | 2 | 4 | 5 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 7 | 0 | 2 | 0 |
| 1976 | 41 | 1 | 2 | 2 | 39 | 2 | 4 | 5 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 7 | 0 | 2 | 0 |
| 1975 | 42 | 1 | 1 | 1 | 36 | 2 | 4 | 5 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 9 | 2 | 1 | 7 | 0 | 4 | 0 |
| 1975 | 42 | 1 | 2 | 1 | 36 | 2 | 4 | 5 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 9 | 2 | 1 | 7 | 0 | 4 | 0 |
| 1978 | 67 | 1 | 1 | 2 | 94 | 2 | 7 | 9 | 2 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 8 | 0 | 24 | 1 |
| 1978 | 67 | 1 | 2 | 2 | 94 | 2 | 7 | 9 | 2 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 8 | 0 | 24 | 1 |
| 1972 | 43 | 1 | 1 | 1 | 48 | 2 | 4 | 7 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 7 | 1 | 6 | 0 |
| 1975 | 44 | 1 | 1 | 1 | 20 | 1 | 9 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 3 | 3 | 0 | 1 | 1 | 1 | 3 | 0 | 8 | 0 |
| 1975 | 44 | 1 | 2 | 1 | 20 | 1 | 9 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 3 | 3 | 0 | 2 | 1 | 1 | 3 | 1 | 7 | 0 |
| 1975 | 44 | 1 | 3 | 1 | 20 | 1 | 9 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 3 | 3 | 0 | 3 | 1 | 1 | 3 | 0 | 4 | 0 |
| 1974 | 45 | 1 | 1 | 2 | 132 | 1 | 10 | 0 | 0 | 1 | 1 | 12 | 2 | 2 | 3 | 9 | 0 | 7 | 1 | 1 | 1 | 1 | 4 | 0 |
| 1963 | 46 | 1 | 1 | 13 | 66 | 1 | 18 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 1 | 7 | 0 | 1 | 0 |
| 1976 | 47 | 1 | 1 | 2 | 64 | 2 | 5 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 9 | 1 | -1 | 0 | 6 | 0 |
| 1976 | 47 | 2 | 1 | 2 | 40 | 2 | 6 | 8 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 9 | 1 | -1 | 0 | 6 | 0 |
| 1977 | 48 | 1 | 1 | 2 | 30 | 1 | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 5 | 9 | 1 | -1 | 0 | 6 | 0 |
| 1977 | 48 | 2 | 1 | 2 | 30 | 1 | 7 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 11 | 9 | 1 | -1 | 0 | 9 | 0 |
| 1977 | 48 | 2 | 2 | 2 | 30 | 1 | 7 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 11 | 9 | 1 | -1 | 0 | 9 | 0 |
| 1977 | 48 | 3 | 1 | 2 | 35 | 2 | 6 | 9 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 5 | 9 | 1 | -1 | 0 | 6 | 0 |
| 1966 | 31 | 1 | 1 | 11 | 544 | 1 | 18 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 6 | 4 | 2 | 6 | 0 | 99 | 0 |
| 1966 | 31 | 2 | 1 | 11 | 110 | 1 | 18 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 6 | 4 | 2 | 6 | 0 | 99 | 0 |
| 1966 | 31 | 3 | 1 | 11 | 236 | 1 | 18 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 6 | 4 | 2 | 6 | 0 | 48 | 0 |
| 1966 | 31 | 4 | 1 | 11 | 272 | 1 | 18 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 6 | 2 | 2 | 5 | 0 | 50 | 0 |
| 1966 | 31 | 5 | 1 | 11 | 50 | 1 | 18 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 6 | 2 | 2 | 5 | 0 | 25 | 0 |
| 1972 | 49 | 1 | 1 | 2 | 80 | 4 | 5 | 11 | 2 | 0 | 1 | 2 | 0 | 99 | 3 | 0 | 0 | 1 | 2 | 1 | 7 | 0 | 10 | 0 |
| 1973 | 50 | 1 | 1 | 1 | 80 | 4 | 5 | 11 | 2 | 0 | 3 | 2 | 0 | 99 | 2 | 3 | 0 | 1 | 2 | 1 | 7 | 0 | 10 | 0 |
| 1969 | 51 | 1 | 1 | 3 | 22 | 1 | 7 | 0 | 0 | 1 | 0 | 0 | 0 | 99 | 1 | 0 | 5 | 1 | 3 | 1 | 8 | 1 | 4 | 0 |
| 1969 | 51 | 1 | 2 | 3 | 22 | 1 | 7 | 0 | 0 | 1 | 0 | 0 | 0 | 99 | 1 | 0 | 5 | 1 | 2 | 1 | 7 | 1 | 5 | 0 |
| 1970 | 52 | 1 | 1 | 1 | 30 | 1 | 5 | 0 | 0 | 0 | 3 | 13 | 2 | 0 | 0 | 0 | 0 | 8 | 5 | 3 | 0 | 0 | 1 | 0 |
| 1972 | 53 | 1 | 1 | 1 | 24 | 1 | 7 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 2 | 1 | 7 | 1 | 4 | 1 |
| 1972 | 53 | 1 | 2 | 1 | 24 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 2 | 1 | 7 | 1 | 1 | 1 |
| 1972 | 53 | 1 | 3 | 1 | 24 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 2 | 1 | 7 | 1 | 1 | 1 |
| 1972 | 53 | 1 | 4 | 1 | 24 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 1 |
| 1975 | 54 | 1 | 1 | 1 | 32 | 4 | 3 | 4 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 7 | 1 | 6 | 0 |
| 1960 | 55 | 1 | 1 | 8 | 40 | 1 | 18 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 2 | 1 | 9 | 2 | 0 | 6 | 0 |
| 1960 | 55 | 1 | 2 | 8 | 40 | 1 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 2 | 1 | 9 | 2 | 0 | 6 | 0 |
| 1960 | 55 | 1 | 3 | 8 | 40 | 1 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 2 | 1 | 9 | 2 | 0 | 12 | 0 |
| 1976 | 57 | 1 | 1 | 1 | 32 | 4 | 4 | 9 | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 7 | 0 | 40 | 0 |
| 1976 | 57 | 2 | 1 | 1 | 24 | 1 | 6 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 7 | 0 | 24 | 1 |
| 1977 | 58 | 1 | 1 | 1 | 72 | 3 | 5 | 9 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 7 | 0 | 36 | 1 |
| 1975 | 59 | 1 | 1 | 5 | 12 | 1 | 3 | 4 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 5 | 1 | 0 | 0 | 1 | 0 |

SAVE FILE S8710FIL REFERENTIAL COMMUNICATION LITERATURE REVIEW N=114 TASKS.

Appendix D

BREAKDOWN OF STUDIES BY JOURNAL



| JOURNAL PUBLISHED IN OR OTHER SOURCE | AUTHORS | PUB YEAR |
|---|---|---|
| CHILD DEVELOPMENT | BALDWIN,M& | CD 71 |
| CHILD DEVELOPMENT | BEARISON&L | CD 77 |
| CHILD DEVELOPMENT | COHEN & KL | CD 68 |
| CHILD DEVELOPMENT | COSGROVE & | CD 78 |
| CHILD DEVELOPMENT | DICKSON & | CD 79 |
| CHILD DEVELOPMENT | FRIEDENBRG | CD 77 |
| CHILD DEVELOPMENT | FRY | CD 66 |
| CHILD DEVELOPMENT | GENESEE & | CD 75 |
| CHILD DEVELOPMENT | GRUSHCOW& | CD 71 |
| CHILD DEVELOPMENT | HOEMAN | CD 72 |
| CHILD DEVELOPMENT | IRONSMITH& | CD 78 |
| CHILD DEVELOPMENT | KARABENICK& | CD 77 |
| CHILD DEVELOPMENT | KRAUSS & G | CD 69 |
| CHILD DEVELOPMENT | LONGHURST& | CD 71 |
| CHILD DEVELOPMENT | MARATSOS | CD 73 |
| CHILD DEVELOPMENT | MENIG-PETE | CD 75 |
| CHILD DEVELOPMENT | PETERSON & | CD 72 |
| CHILD DEVELOPMENT | PICHE & | CD 75 |
| CHILD DEVELOPMENT | RUBIN | CD 73 |
| CHILD DEVELOPMENT | SCHMIDT & | CD 70 |
| CHILD DEVELOPMENT | SHANTZ & W | CD 72 |
| CHILD DEVELOPMENT | SUSSWEIN & | CD 75 |
| CHILD DEVELOPMENT | WHITEHURST | CD 76 |
| CHILD DEVELOPMENT | WHITEHRST& | CD 77 |
| DEVELOPMENTAL PSYCH | ASHER | DP 76 |
| DEVELOPMENTAL PSYCH | ASHER&ODEN | DP 76 |
| DEVELOPMENTAL PSYCH | BEARISON&C | DP 75 |
| DEVELOPMENTAL PSYCH | CHANDLER&G | DP 74 |
| DEVELOPMENTAL PSYCH | COSGROVE & | DP 77 |
| DEVELOPMENTAL PSYCH | HOY | DP 75 |
| DEVELOPMENTAL PSYCH | IRONSMITH& | DP 78 |
| DEVELOPMENTAL PSYCH | MEISSNER | DP 78 |
| DEVELOPMENTAL PSYCH | MEISSNER & | DP 76 |
| DEVELOPMENTAL PSYCH | PATTERSON& | DP 78 |
| DEVELOPMENTAL PSYCH | POZNER & | DP 74 |
| DEVELOPMENTAL PSYCH | ROBINSON & | DP 76 |
| DEVELOPMENTAL PSYCH | ROBINSON & | DP 77 |
| DEVELOPMENTAL PSYCH | RUBIN | DP 72 |
| J OF ED PSYCH | ASHER &P | JEDP 75 |
| J OF ED PSYCH | MEISSNER | JEP 75 |
| J OF ED PSYCH | SAMUELS& | JEDP 69 |
| J PERS & SOCIAL PSYC | FEFFER&S | JPSP 66 |
| J PERS & SOCIAL PSYC | HEIDER | JPSP 71 |
| J PERS & SOCIAL PSYC | KRAUSS& | JPSP 68 |
| J PERS & SOCIAL PSYC | KRAUSS & | JPSP 66 |
| BRITISH J OF PSYCH | JOHNSTON& | BJP 68 |
| BRITISH J OF PSYCH | WOOD & | BJP 75 |
| MERRILL-PALMER QTLY | FISHBEIN& | MPQ 71 |

BREAKDOWN OF STUDIES BY JOURNAL 

| JOURNAL PUBLISHED IN OR OTHER SOURCE | AUTHORS PUB YEAR |
|---|---|
| MERRILL-PALMER QTLY | GARMIZA&A MPQ 76 |
| MERRILL-PALMER QTLY | KRAUSS & MPQ 68 |
| J OF VERBAL LEARNING | KRAUSS& JVLVB 67 |
| HUMAN RELATIONS | TRIANDIS HR 60 |
| J OF COMMUNICATION | BRILHART JC 65 |
| LANGUAGE & SPEECH | JOHNSON&G LS 68 |
| PSYCH REVIEW | ROSENBRG& REV 66 |
| COGNITIVE PSYCH | DANKS CP 70 |
| PSYCH RECORD | RATNER &R REC 63 |
| GENETIC PSYCH MONOGR | HIGGINS GPM 77 |
| AMER ED RESEARCH J | BALDWIN& AERJ 73 |
| HUMAN FACTORS | CHAPANIS & HF 72 |
| J OF EXPER CHILD PSY | FORD & O JECP 75 |
| J OF EXPER CHILD PSY | GLUCKSBG JECP 66 |
| MISC: TECH REP, BULL | DICKSON&M PAP 79 |
| PAPER AT CONFERENCE | GREENSPAN PAP 75 |
| DISSERTATION | DICKSON DIS 74 |
| COGNITION | DICKSON&M COG 77 |

TOTAL 66

Appendix E

BREAKDOWN OF STUDIES BY TOTAL N



| TOTALN DIVIDED INTO QUARTILES | AUTHORS PUB YEAR | EXPERIMENT | TOTAL NUMBER SUBJECTS |
|---|---|---|---|
| N = 4 - 34 | | | |
| | JOHNSON&G LS 68 | 1 | 4 |
| | WOOD & BJP 75 | 1 | 12 |
| | DICKSON&M PAP 79 | 1 | 16 |
| | CHAPANIS & HF 72 | 1 | 20 |
| | PICHE & CD 75 | 1 | 20 |
| | SAMUELS& JEDP 69 | 1 | 22 |
| | GRUSHCOW& CD 71 | 1 | 24 |
| | MARATSOS CD 73 | 1 | 24 |
| | SHANTZ & W CD 72 | 1 | 24 |
| | WHITEHURST CD 76 | 2 | 24 |
| | GLUCKSBG JECP 66 | 1 | 26 |
| | LONGHURST& CD 71 | 1 | 28 |
| | ASHER &P JEDP 75 | 2 | 30 |
| | KRAUSS& JVLVB 67 | 1 | 30 |
| | ROBINSON & DP 77 | 1 | 30 |
| | ROBINSON & DP 77 | 2 | 30 |
| | SCHMIDT & CD 70 | 1 | 30 |
| | SUSSWEIN & CD 75 | 1 | 32 |
| | WHITEHURST CD 76 | 1 | 32 |
| | BRILHART JC 65 | 1 | 34 |
| | 20 | | |
| N = 35 - 52 | | | |
| | ROBINSON & DP 77 | 3 | 35 |
| | FEFFER&S JPSP 66 | 1 | 36 |
| | MENIG-PETE CD 75 | 1 | 36 |
| | BEARISON&C DP 75 | 1 | 37 |
| | MEISSNER & DP 76 | 1 | 39 |
| | COSGROVE & CD 78 | 1 | 40 |
| | FORD & O JECP 75 | 2 | 40 |
| | ROBINSON & DP 76 | 2 | 40 |
| | TRIANDIS HR 60 | 1 | 40 |
| | ASHER &P JEDP 75 | 3 | 42 |
| | ASHER DP 76 | 2 | 45 |
| | GARMIZA&A MPQ 76 | 1 | 48 |
| | KRAUSS & JPSP 66 | 1 | 48 |
| | PETERSON & CD 72 | 1 | 48 |
| | FORD & O JECP 75 | 1 | 50 |
| | ROSENBRG& REV 66 | 5 | 50 |
| | KRAUSS& JPSP 68 | 1 | 52 |
| | 17 | | |
| N = 56 - 94 | | | |
| | JOHNSTON& BJP 68 | 1 | 56 |
| | MEISSNER DP 78 | 1 | 56 |
| | ASHER &P JEDP 75 | 1 | 60 |
| | ASHER&ODEN DP 76 | 1 | 64 |

BREAKDOWN OF STUDIES BY TOTAL N PAGE E - 2

| TOTALN DIVIDED INTO QUARTILES | AUTHORS PUB YEAR | EXPERIMENT | TOTAL NUMBER SUBJECTS |
|---|---|---|---|
| | FRY CD 66 | 1 | 64 |
| | IRONSMITH& CD 78 | 1 | 64 |
| | ROBINSON & DP 76 | 1 | 64 |
| | FRIEDENBRG CD 77 | 1 | 66 |
| | RATNER &R REC 63 | 1 | 66 |
| | HOY DP 75 | 1 | 72 |
| | WHITEHRST& CD 77 | 1 | 72 |
| | KRAUSS & G CD 69 | 1 | 74 |
| | HOEMAN CD 72 | 1 | 80 |
| | KRAUSS & MPQ 68 | 1 | 80 |
| | RUBIN DP 72 | 1 | 80 |
| | RUBIN CD 73 | 1 | 80 |
| | ASHER DP 76 | 1 | 90 |
| | BEARISON&L CD 77 | 1 | 90 |
| | MEISSNER JEP 75 | 1 | 92 |
| | PATTERSON& DP 78 | 1 | 94 |
| | 20 | | |
| N = 96 - 960 | | | |
| | BALDWIN& AERJ 73 | 1 | 96 |
| | BALDWIN,M& CD 71 | 1 | 96 |
| | COSGROVE & DP 77 | 1 | 96 |
| | DICKSON DIS 74 | 1 | 96 |
| | FISHBEIN& MPQ 71 | 1 | 96 |
| | FISHBEIN& MPQ 71 | 2 | 96 |
| | IRONSMITH& DP 78 | 1 | 96 |
| | GENESEE & CD 75 | 1 | 100 |
| | ROSENBRG& REV 66 | 2 | 110 |
| | DANKS CP 70 | 1 | 120 |
| | GREENSPAN PAP 75 | 1 | 120 |
| | CHANDLER&G DP 74 | 1 | 125 |
| | DICKSON & CD 79 | 1 | 125 |
| | GREENSPAN PAP 75 | 2 | 125 |
| | POZNER & DP 74 | 1 | 132 |
| | HEIDER JPSP 71 | 1 | 143 |
| | KARABENICK&CD 77 | 1 | 144 |
| | DICKSON&M COG 77 | 1 | 150 |
| | HIGGINS GPM 77 | 1 | 192 |
| | ROSENBRG& REV 66 | 3 | 236 |
| | COHEN & KL CD 68 | 1 | 240 |
| | ROSENBRG& REV 66 | 4 | 272 |
| | ROSENBRG& REV 66 | 1 | 544 |
| | 23 | | |
| TOTAL | 80 | | |

Appendix F

ORDERED ON AGE OF YOUNGEST SUBJECTS PAGE F - 1

| AUTHORS | PUB YEAR | JOURNAL OR SOURCE | YOUNGEST | E |
|---|---|---|---|---|
| FRIEDENBRG | CD 77 | CHILD DEVELOPMENT | 2 | 1 |
| LONGHURST& | CD 71 | CHILD DEVELOPMENT | 2 | 1 |
| GLUCKSBG | JECP 66 | J OF EXPER CHILD PSY | 3 | 1 |
| MARATSOS | CD 73 | CHILD DEVELOPMENT | 3 | 1 |
| SUSSWEIN & | CD 75 | CHILD DEVELOPMENT | 3 | 1 |
| WOOD & | BJP 75 | BRITISH J OF PSYCH | 3 | 1 |
| COSGROVE & | DP 77 | DEVELOPMENTAL PSYCH | 4 | 1 |
| DICKSON | DIS 74 | DISSERTATION | 4 | 1 |
| DICKSON & | CD 79 | CHILD DEVELOPMENT | 4 | 1 |
| FORD & O | JECP 75 | J OF EXPER CHILD PSY | 4 | 2 |
| GRUSHCOW& | CD 71 | CHILD DEVELOPMENT | 4 | 1 |
| MEISSNER & | DP 76 | DEVELOPMENTAL PSYCH | 4 | 1 |
| MENIG-PETE | CD 75 | CHILD DEVELOPMENT | 4 | 1 |
| PETERSON & | CD 72 | CHILD DEVELOPMENT | 4 | 1 |
| WHITEHURST | CD 76 | CHILD DEVELOPMENT | 4 | 1 |
| BEARISON&L | CD 77 | CHILD DEVELOPMENT | 5 | 1 |
| FORD & O | JECP 75 | J OF EXPER CHILD PSY | 5 | 1 |
| GENESEE & | CD 75 | CHILD DEVELOPMENT | 5 | 1 |
| HOY | DP 75 | DEVELOPMENTAL PSYCH | 5 | 1 |
| IRONSMITH& | CD 78 | CHILD DEVELOPMENT | 5 | 1 |
| IRONSMITH& | DP 78 | DEVELOPMENTAL PSYCH | 5 | 1 |
| JOHNSTON& | BJP 68 | BRITISH J OF PSYCH | 5 | 1 |
| KARABENICK&C | D 77 | CHILD DEVELOPMENT | 5 | 1 |
| KRAUSS & G | CD 69 | CHILD DEVELOPMENT | 5 | 1 |
| MEISSNER | DP 78 | DEVELOPMENTAL PSYCH | 5 | 1 |
| ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 5 | 1 |
| ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 5 | 1 |
| RUBIN | DP 72 | DEVELOPMENTAL PSYCH | 5 | 1 |
| RUBIN | CD 73 | CHILD DEVELOPMENT | 5 | 1 |
| SCHMIDT & | CD 70 | CHILD DEVELOPMENT | 5 | 1 |
| WHITEHRST& | CD 77 | CHILD DEVELOPMENT | 5 | 1 |
| BEARISON&C | DP 75 | DEVELOPMENTAL PSYCH | 6 | 1 |
| COSGROVE & | CD 78 | CHILD DEVELOPMENT | 6 | 1 |
| FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 6 | 1 |
| FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 6 | 2 |
| GARMIZA&A | MPQ 76 | MERRILL-PALMER QTLY | 6 | 1 |
| GREENSPAN | PAP 75 | PAPER AT CONFERENCE | 6 | 1 |
| ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 6 | 2 |
| ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 6 | 3 |
| WHITEHURST | CD 76 | CHILD DEVELOPMENT | 6 | 2 |
| ASHER | DP 76 | DEVELOPMENTAL PSYCH | 7 | 1 |
| ASHER | DP 76 | DEVELOPMENTAL PSYCH | 7 | 2 |
| ASHER &P | JEDP 75 | J OF ED PSYCH | 7 | 1 |
| ASHER &P | JEDP 75 | J OF ED PSYCH | 7 | 2 |
| ASHER &P | JEDP 75 | J OF ED PSYCH | 7 | 3 |
| KRAUSS & | MPQ 68 | MERRILL-PALMER QTLY | 7 | 1 |
| MEISSNER | JEP 75 | J QF ED PSYCH | 7 | 1 |
| PATTERSON& | DP 78 | DEVELOPMENTAL PSYCH | 7 | 1 |
| ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 7 | 2 |

ORDERED ON AGE OF YOUNGEST SUBJECTS PAGE F - 2

| AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | YOUNGEST | E |
|---|---|---|---|---|---|
| SAMUELS& | JEDP | 69 | J OF ED PSYCH | 7 | 1 |
| SHANTZ & W | CD | 72 | CHILD DEVELOPMENT | 7 | 1 |
| ASHER&ODEN | DP | 76 | DEVELOPMENTAL PSYCH | 8 | 1 |
| CHANDLER&G | DP | 74 | DEVELOPMENTAL PSYCH | 8 | 1 |
| COHEN & KL | CD | 68 | CHILD DEVELOPMENT | 8 | 1 |
| GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 8 | 2 |
| HOEMAN | CD | 72 | CHILD DEVELOPMENT | 8 | 1 |
| BALDWIN& | AERJ | 73 | AMER ED RESEARCH J | 9 | 1 |
| PICHE & | CD | 75 | CHILD DEVELOPMENT | 9 | 1 |
| BALDWIN,M& | CD | 71 | CHILD DEVELOPMENT | 10 | 1 |
| HEIDER | JPSP | 71 | J PERS & SOCIAL PSYC | 10 | 1 |
| HIGGINS | GPM | 77 | GENETIC PSYCH MONOGR | 10 | 1 |
| POZNER & | DP | 74 | DEVELOPMENTAL PSYCH | 10 | 1 |
| FRY | CD | 66 | CHILD DEVELOPMENT | 12 | 1 |
| CHAPANIS & | HF | 72 | HUMAN FACTORS | 14 | 1 |
| BRILHART | JC | 65 | J OF COMMUNICATION | 18 | 1 |
| DANKS | CP | 70 | COGNITIVE PSYCH | 18 | 1 |
| DICKSON&M | COG | 77 | COGNITION | 18 | 1 |
| DICKSON&M | PAP | 79 | MISC: TECH REP, BULL | 18 | 1 |
| FEFFER&S | JPSP | 66 | J PERS & SOCIAL PSYC | 18 | 1 |
| JOHNSON&G | LS | 68 | LANGUAGE & SPEECH | 18 | 1 |
| KRAUSS& | JPSP | 68 | J PERS & SOCIAL PSYC | 18 | 1 |
| KRAUSS & | JPSP | 66 | J PERS & SOCIAL PSYC | 18 | 1 |
| KRAUSS& | JVLVB | 67 | J OF VERBAL LEARNING | 18 | 1 |
| RATNER &R | REC | 63 | PSYCH RECORD | 18 | 1 |
| ROSENBRG& | REV | 66 | PSYCH REVIEW | 18 | 1 |
| ROSENBRG& | REV | 66 | PSYCH REVIEW | 18 | 2 |
| ROSENBRG& | REV | 66 | PSYCH REVIEW | 18 | 3 |
| ROSENBRG& | REV | 66 | PSYCH REVIEW | 18 | 4 |
| ROSENBRG& | REV | 66 | PSYCH REVIEW | 18 | 5 |
| TRIANDIS | HR | 60 | HUMAN RELATIONS | 18 | 1 |

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ORDERED ON AGE OF OLDEST SUBJECTS PAGE G - 1

| AUTHORS PUB YEAR | JOURNAL OR SOURCE | OLDEST | E |
|---|---|---|---|
| BALDWIN& AERJ 73 | AMER ED RESEARCH J | 0 | 1 |
| BALDWIN,M& CD 71 | CHILD DEVELOPMENT | 0 | 1 |
| BEARISON&C DP 75 | DEVELOPMENTAL PSYCH | 0 | 1 |
| BRILHART JC 65 | J OF COMMUNICATION | 0 | 1 |
| COSGROVE & CD 78 | CHILD DEVELOPMENT | 0 | 1 |
| DANKS CP 70 | COGNITIVE PSYCH | 0 | 1 |
| DICKSON & CD 79 | CHILD DEVELOPMENT | 0 | 1 |
| DICKSON&M COG 77 | COGNITION | 0 | 1 |
| DICKSON&M PAP 79 | MISC: TECH REP, BULL | 0 | 1 |
| FEFFER&S JPSP 66 | J PERS & SOCIAL PSYC | 0 | 1 |
| FRY CD 66 | CHILD DEVELOPMENT | 0 | 1 |
| HEIDER JPSP 71 | J PERS & SOCIAL PSYC | 0 | 1 |
| JOHNSON&G LS 68 | LANGUAGE & SPEECH | 0 | 1 |
| JOHNSTON& BJP 68 | BRITISH J OF PSYCH | 0 | 1 |
| KRAUSS& JPSP 68 | J PERS & SOCIAL PSYC | 0 | 1 |
| PICHE & CD 75 | CHILD DEVELOPMENT | 0 | 1 |
| POZNER & DP 74 | DEVELOPMENTAL PSYCH | 0 | 1 |
| RATNER &R REC 63 | PSYCH RECORD | 0 | 1 |
| ROBINSON & DP 77 | DEVELOPMENTAL PSYCH | 0 | 1 |
| ROBINSON & DP 77 | DEVELOPMENTAL PSYCH | 0 | 2 |
| ROSENBRG& REV 66 | PSYCH REVIEW | 0 | 1 |
| ROSENBRG& REV 66 | PSYCH REVIEW | 0 | 2 |
| ROSENBRG& REV 66 | PSYCH REVIEW | 0 | 3 |
| ROSENBRG& REV 66 | PSYCH REVIEW | 0 | 4 |
| ROSENBRG& REV 66 | PSYCH REVIEW | 0 | 5 |
| SAMUELS& JEDP 69 | J OF ED PSYCH | 0 | 1 |
| SCHMIDT & CD 70 | CHILD DEVELOPMENT | 0 | 1 |
| SHANTZ & W CD 72 | CHILD DEVELOPMENT | 0 | 1 |
| TRIANDIS HR 60 | HUMAN RELATIONS | 0 | 1 |
| WHITEHURST CD 76 | CHILD DEVELOPMENT | 0 | 2 |
| SUSSWEIN & CD 75 | CHILD DEVELOPMENT | 4 | 1 |
| WOOD & BJP 75 | BRITISH J OF PSYCH | 4 | 1 |
| GLUCKSBG JECP 66 | J OF EXPER CHILD PSY | 5 | 1 |
| GRUSHCOW& CD 71 | CHILD DEVELOPMENT | 5 | 1 |
| LONGHURST& CD 71 | CHILD DEVELOPMENT | 5 | 1 |
| MARATSOS CD 73 | CHILD DEVELOPMENT | 5 | 1 |
| MEISSNER & DP 76 | DEVELOPMENTAL PSYCH | 5 | 1 |
| MENIG-PETE CD 75 | CHILD DEVELOPMENT | 5 | 1 |
| FRIEDENBRG CD 77 | CHILD DEVELOPMENT | 6 | 1 |
| FORD & O JECP 75 | J OF EXPER CHILD PSY | 7 | 1 |
| FORD & O JECP 75 | J OF EXPER CHILD PSY | 7 | 2 |
| GARMIZA&A MPQ 76 | MERRILL-PALMER QTLY | 7 | 1 |
| GENESEE & CD 75 | CHILD DEVELOPMENT | 7 | 1 |
| KARABENICK&CD 77 | CHILD DEVELOPMENT | 7 | 1 |
| PETERSON & CD 72 | CHILD DEVELOPMENT | 7 | 1 |
| ROBINSON & DP 76 | DEVELOPMENTAL PSYCH | 7 | 1 |
| DICKSON DIS 74 | DISSERTATION | 8 | 1 |
| MEISSNER DP 78 | DEVELOPMENTAL PSYCH | 8 | 1 |
| ROBINSON & DP 76 | DEVELOPMENTAL PSYCH | 8 | 2 |

ORDERED ON AGE OF OLDEST SUBJECTS PAGE G - 2

| AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | OLDEST | E |
|---|---|---|---|---|---|
| BEARISON&L | CD | 77 | CHILD DEVELOPMENT | 9 | 1 |
| HOY | DP | 75 | DEVELOPMENTAL PSYCH | 9 | 1 |
| IRONSMITH& | DP | 78 | DEVELOPMENTAL PSYCH | 9 | 1 |
| MEISSNER | JEP | 75 | J OF ED PSYCH | 9 | 1 |
| PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 9 | 1 |
| ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 9 | 3 |
| WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 9 | 1 |
| WHITEHRST& | CD | 77 | CHILD DEVELOPMENT | 9 | 1 |
| ASHER&ODEN | DP | 76 | DEVELOPMENTAL PSYCH | 10 | 1 |
| COSGROVE & | DP | 77 | DEVELOPMENTAL PSYCH | 10 | 1 |
| FISHBEIN& | MPQ | 71 | MERRILL-PALMER QTLY | 10 | 1 |
| FISHBEIN& | MPQ | 71 | MERRILL-PALMER QTLY | 10 | 2 |
| KRAUSS & G | CD | 69 | CHILD DEVELOPMENT | 10 | 1 |
| ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 11 | 1 |
| ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 11 | 2 |
| ASHER &P | JEDP | 75 | J OF ED PSYCH | 11 | 1 |
| ASHER &P | JEDP | 75 | J OF ED PSYCH | 11 | 2 |
| ASHER &P | JEDP | 75 | J OF ED PSYCH | 11 | 3 |
| GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 11 | 1 |
| HOEMAN | CD | 72 | CHILD DEVELOPMENT | 11 | 1 |
| IRONSMITH& | CD | 78 | CHILD DEVELOPMENT | 11 | 1 |
| RUBIN | DP | 72 | DEVELOPMENTAL PSYCH | 11 | 1 |
| RUBIN | CD | 73 | CHILD DEVELOPMENT | 11 | 1 |
| COHEN & KL | CD | 68 | CHILD DEVELOPMENT | 12 | 1 |
| KRAUSS & | MPQ | 68 | MERRILL-PALMER QTLY | 12 | 1 |
| HIGGINS | GPM | 77 | GENETIC PSYCH MONOGR | 14 | 1 |
| CHANDLER&G | DP | 74 | DEVELOPMENTAL PSYCH | 15 | 1 |
| GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 15 | 2 |
| CHAPANIS & HF | | 72 | HUMAN FACTORS | 18 | 1 |
| KRAUSS & | JPSP | 66 | J PERS & SOCIAL PSYC | 35 | 1 |
| KRAUSS& | JVLVB | 67 | J OF VERBAL LEARNING | 35 | 1 |

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Appendix H

ORDERED ON AGERANGE OF SUBJECTS 

| AUTHORS | PUB YEAR | JOURNAL OR SOURCE | AGE RANGE | EXP |
|---|---|---|---|---|
| BALDWIN& | AERJ 73 | AMER ED RESEARCH J | 0 | 1 |
| BALDWIN,M& | CD 71 | CHILD DEVELOPMENT | 0 | 1 |
| BEARISON&C | DP 75 | DEVELOPMENTAL PSYCH | 0 | 1 |
| BRILHART | JC 65 | J OF COMMUNICATION | 0 | 1 |
| COSGROVE & | CD 78 | CHILD DEVELOPMENT | 0 | 1 |
| DANKS | CP 70 | COGNITIVE PSYCH | 0 | 1 |
| DICKSON & | CD 79 | CHILD DEVELOPMENT | 0 | 1 |
| DICKSON&M | COG 77 | COGNITION | 0 | 1 |
| DICKSON&M | PAP 79 | MISC: TECH REP, BULL | 0 | 1 |
| FEFFER&S | JPSP 66 | J PERS & SOCIAL PSYC | 0 | 1 |
| FRY | CD 66 | CHILD DEVELOPMENT | 0 | 1 |
| HEIDER | JPSP 71 | J PERS & SOCIAL PSYC | 0 | 1 |
| JOHNSON&G | LS 68 | LANGUAGE & SPEECH | 0 | 1 |
| JOHNSTON& | BJP 68 | BRITISH J OF PSYCH | 0 | 1 |
| KRAUSS& | JPSP 68 | J PERS & SOCIAL PSYC | 0 | 1 |
| PICHE & | CD 75 | CHILD DEVELOPMENT | 0 | 1 |
| POZNER & | DP 74 | DEVELOPMENTAL PSYCH | 0 | 1 |
| RATNER &R | REC 63 | PSYCH RECORD | 0 | 1 |
| ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 0 | 1 |
| ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 0 | 2 |
| ROSENBRG& | REV 66 | PSYCH REVIEW | 0 | 1 |
| ROSENBRG& | REV 66 | PSYCH REVIEW | 0 | 2 |
| ROSENBRG& | REV 66 | PSYCH REVIEW | 0 | 3 |
| ROSENBRG& | REV 66 | PSYCH REVIEW | 0 | 4 |
| ROSENBRG& | REV 66 | PSYCH REVIEW | 0 | 5 |
| SAMUELS& | JEDP 69 | J OF ED PSYCH | 0 | 1 |
| SCHMIDT & | CD 70 | CHILD DEVELOPMENT | 0 | 1 |
| SHANTZ & W | CD 72 | CHILD DEVELOPMENT | 0 | 1 |
| TRIANDIS | HR 60 | HUMAN RELATIONS | 0 | 1 |
| WHITEHURST | CD 76 | CHILD DEVELOPMENT | 0 | 2 |
| GARMIZA&A | MPQ 76 | MERRILL-PALMER QTLY | 1 | 1 |
| GRUSHCOW& | CD 71 | CHILD DEVELOPMENT | 1 | 1 |
| MEISSNER & | DP 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| MENIG-PETE | CD 75 | CHILD DEVELOPMENT | 1 | 1 |
| SUSSWEIN & | CD 75 | CHILD DEVELOPMENT | 1 | 1 |
| WOOD & | BJP 75 | BRITISH J OF PSYCH | 1 | 1 |
| ASHER&ODEN | DP 76 | DEVELOPMENTAL PSYCH | 2 | 1 |
| FORD & O | JECP 75 | J OF EXPER CHILD PSY | 2 | 1 |
| GENESEE & | CD 75 | CHILD DEVELOPMENT | 2 | 1 |
| GLUCKSBG | JECP 66 | J OF EXPER CHILD PSY | 2 | 1 |
| KARABENICK&CD | 77 | CHILD DEVELOPMENT | 2 | 1 |
| MARATSOS | CD 73 | CHILD DEVELOPMENT | 2 | 1 |
| MEISSNER | JEP 75 | J OF ED PSYCH | 2 | 1 |
| PATTERSON& | DP 78 | DEVELOPMENTAL PSYCH | 2 | 1 |
| ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 2 | 1 |
| ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 2 | 2 |
| FORD & O | JECP 75 | J OF EXPER CHILD PSY | 3 | 2 |
| HOEMAN | CD 72 | CHILD DEVELOPMENT | 3 | 1 |
| LONGHURST& | CD 71 | CHILD DEVELOPMENT | 3 | 1 |

ORDERED ON AGERANGE OF SUBJECTS PAGE H - 2

| AUTHORS | PUB YEAR | JOURNAL OR SOURCE | AGE RANGE | EXP |
|---|---|---|---|---|
| MEISSNER | DP 78 | DEVELOPMENTAL PSYCH | 3 | 1 |
| PETERSON & | CD 72 | CHILD DEVELOPMENT | 3 | 1 |
| ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 3 | 3 |
| ASHER | DP 76 | DEVELOPMENTAL PSYCH | 4 | 1 |
| ASHER | DP 76 | DEVELOPMENTAL PSYCH | 4 | 2 |
| ASHER &P | JEDP 75 | J OF ED PSYCH | 4 | 1 |
| ASHER &P | JEDP 75 | J OF ED PSYCH | 4 | 2 |
| ASHER &P | JEDP 75 | J OF ED PSYCH | 4 | 3 |
| BEARISON&L | CD 77 | CHILD DEVELOPMENT | 4 | 1 |
| CHAPANIS & | HF 72 | HUMAN FACTORS | 4 | 1 |
| COHEN & KL | CD 68 | CHILD DEVELOPMENT | 4 | 1 |
| DICKSON | DIS 74 | DISSERTATION | 4 | 1 |
| FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 4 | 1 |
| FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 4 | 2 |
| FRIEDENBRG | CD 77 | CHILD DEVELOPMENT | 4 | 1 |
| HIGGINS | GPM 77 | GENETIC PSYCH MONOGR | 4 | 1 |
| HOY | DP 75 | DEVELOPMENTAL PSYCH | 4 | 1 |
| IRONSMITH& | DP 78 | DEVELOPMENTAL PSYCH | 4 | 1 |
| WHITEHRST& | CD 77 | CHILD DEVELOPMENT | 4 | 1 |
| GREENSPAN | PAP 75 | PAPER AT CONFERENCE | 5 | 1 |
| KRAUSS & G | CD 69 | CHILD DEVELOPMENT | 5 | 1 |
| KRAUSS & | MPQ 68 | MERRILL-PALMER QTLY | 5 | 1 |
| WHITEHURST | CD 76 | CHILD DEVELOPMENT | 5 | 1 |
| COSGROVE & | DP 77 | DEVELOPMENTAL PSYCH | 6 | 1 |
| IRONSMITH& | CD 78 | CHILD DEVELOPMENT | 6 | 1 |
| RUBIN | DP 72 | DEVELOPMENTAL PSYCH | 6 | 1 |
| RUBIN | CD 73 | CHILD DEVELOPMENT | 6 | 1 |
| CHANDLER&G | DP 74 | DEVELOPMENTAL PSYCH | 7 | 1 |
| GREENSPAN | PAP 75 | PAPER AT CONFERENCE | 7 | 2 |
| KRAUSS & | JPSP 66 | J PERS & SOCIAL PSYC | 17 | 1 |
| KRAUSS& | JVLVB 67 | J OF VERBAL LEARNING | 17 | 1 |

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STUDIES ORDERED ON NUMBER OF AGE GROUPS PAGE I - 1

| NUMBER OF AGE GROUPS | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | E |
|---|---|---|---|---|
| ONE AGE GROUP | | | | |
| | BALDWIN& | AERJ 73 | AMER ED RESEARCH J | 1 |
| | BALDWIN,M& | CD 71 | CHILD DEVELOPMENT | 1 |
| | BEARISON&C | DP 75 | DEVELOPMENTAL PSYCH | 1 |
| | BRILHART | JC 65 | J OF COMMUNICATION | 1 |
| | CHANDLER&G | DP 74 | DEVELOPMENTAL PSYCH | 1 |
| | CHAPANIS & | HF 72 | HUMAN FACTORS | 1 |
| | COSGROVE & | CD 78 | CHILD DEVELOPMENT | 1 |
| | DANKS | CP 70 | COGNITIVE PSYCH | 1 |
| | DICKSON & | CD 79 | CHILD DEVELOPMENT | 1 |
| | DICKSON&M | COG 77 | COGNITION | 1 |
| | DICKSON&M | PAP 79 | MISC: TECH REP, BULL | 1 |
| | FEFFER&S | JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | FRY | CD 66 | CHILD DEVELOPMENT | 1 |
| | GREENSPAN | PAP 75 | PAPER AT CONFERENCE | 2 |
| | GRUSHCOW& | CD 71 | CHILD DEVELOPMENT | 1 |
| | HEIDER | JPSP 71 | J PERS & SOCIAL PSYC | 1 |
| | JOHNSON&G | LS 68 | LANGUAGE & SPEECH | 1 |
| | JOHNSTON& | BJP 68 | BRITISH J OF PSYCH | 1 |
| | KRAUSS& | JPSP 68 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS & | JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS& | JVLVB 67 | J OF VERBAL LEARNING | 1 |
| | PICHE & | CD 75 | CHILD DEVELOPMENT | 1 |
| | POZNER & | DP 74 | DEVELOPMENTAL PSYCH | 1 |
| | RATNER &R | REC 63 | PSYCH RECORD | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 2 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 2 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 3 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 4 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 5 |
| | SAMUELS& | JEDP 69 | J OF ED PSYCH | 1 |
| | SCHMIDT & | CD 70 | CHILD DEVELOPMENT | 1 |
| | SHANTZ & W | CD 72 | CHILD DEVELOPMENT | 1 |
| | TRIANDIS | HR 60 | HUMAN RELATIONS | 1 |
| | WHITEHURST | CD 76 | CHILD DEVELOPMENT | 2 |
| | WOOD & | BJP 75 | BRITISH J OF PSYCH | 1 |

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| | | | | |
|---|---|---|---|---|
| TWO AGE GROUPS | | | | |
| | ASHER&ODEN | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 2 |
| | FORD & O | JECP 75 | J OF EXPER CHILD PSY | 1 |
| | FORD & O | JECP 75 | J OF EXPER CHILD PSY | 2 |
| | GARMIZA&A | MPQ 76 | MERRILL-PALMER QTLY | 1 |
| | GLUCKSBG | JECP 66 | J OF EXPER CHILD PSY | 1 |
| | HOEMAN | CD 72 | CHILD DEVELOPMENT | 1 |
| | IRONSMITH& | DP 78 | DEVELOPMENTAL PSYCH | 1 |

STUDIES ORDERED ON NUMBER OF AGE GROUPS 

| NUMBER OF AGE GROUPS | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | E |
|---|---|---|---|---|
| | KRAUSS & | MPQ 68 | MERRILL-PALMER QTLY | 1 |
| | LONGHURST& | CD 71 | CHILD DEVELOPMENT | 1 |
| | MEISSNER | JEP 75 | J OF ED PSYCH | 1 |
| | MEISSNER | DP 78 | DEVELOPMENTAL PSYCH | 1 |
| | MEISSNER & | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | MENIG-PETE | CD 75 | CHILD DEVELOPMENT | 1 |
| | PATTERSON& | DP 78 | DEVELOPMENTAL PSYCH | 1 |
| | PETERSON & | CD 72 | CHILD DEVELOPMENT | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 3 |
| | | | 20 | |
| THREE AGE GROUPS | | | | |
| | ASHER | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER | DP 76 | DEVELOPMENTAL PSYCH | 2 |
| | ASHER &P | JEDP 75 | J OF ED PSYCH | 1 |
| | ASHER &P | JEDP 75 | J OF ED PSYCH | 2 |
| | ASHER &P | JEDP 75 | J OF ED PSYCH | 3 |
| | BEARISON&L | CD 77 | CHILD DEVELOPMENT | 1 |
| | COHEN & KL | CD 68 | CHILD DEVELOPMENT | 1 |
| | DICKSON | DIS 74 | DISSERTATION | 1 |
| | GENESEE & | CD 75 | CHILD DEVELOPMENT | 1 |
| | HOY | DP 75 | DEVELOPMENTAL PSYCH | 1 |
| | KARABENICK& | CD 77 | CHILD DEVELOPMENT | 1 |
| | MARATSOS | CD 73 | CHILD DEVELOPMENT | 1 |
| | WHITEHRST& | CD 77 | CHILD DEVELOPMENT | 1 |
| | | | 13 | |
| FOUR AGE GROUPS | | | | |
| | COSGROVE & | DP 77 | DEVELOPMENTAL PSYCH | 1 |
| | FRIEDENBRG | CD 77 | CHILD DEVELOPMENT | 1 |
| | HIGGINS | GPM 77 | GENETIC PSYCH MONOGR | 1 |
| | IRONSMITH& | CD 78 | CHILD DEVELOPMENT | 1 |
| | KRAUSS & G | CD 69 | CHILD DEVELOPMENT | 1 |
| | RUBIN | DP 72 | DEVELOPMENTAL PSYCH | 1 |
| | RUBIN | CD 73 | CHILD DEVELOPMENT | 1 |
| | SUSSWEIN & | CD 75 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST | CD 76 | CHILD DEVELOPMENT | 1 |
| | | | 9 | |
| SIX AGE GROUPS | | | | |
| | GREENSPAN | PAP 75 | PAPER AT CONFERENCE | 1 |
| | | | 1 | |
| TOTAL | | | 80 | |

Appendix J

RESULTS OF AGE ANALYSES 

| WAS AGE ANALYZED | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|---|
| AGE NOT A FACTOR | | | | |
| | BALDWIN& | AERJ 73 | AMER ED RESEARCH J | 1 |
| | BALDWIN,M& | CD 71 | CHILD DEVELOPMENT | 1 |
| | BEARISON&C | DP 75 | DEVELOPMENTAL PSYCH | 1 |
| | BRILHART | JC 65 | J OF COMMUNICATION | 1 |
| | CHANDLER&G | DP 74 | DEVELOPMENTAL PSYCH | 1 |
| | CHAPANIS & | HF 72 | HUMAN FACTORS | 1 |
| | COSGROVE & | CD 78 | CHILD DEVELOPMENT | 1 |
| | DANKS | CP 70 | COGNITIVE PSYCH | 1 |
| | DICKSON & | CD 79 | CHILD DEVELOPMENT | 1 |
| | DICKSON&M | COG 77 | COGNITION | 1 |
| | DICKSON&M | PAP 79 | MISC: TECH REP, BULL | 1 |
| | FEFFER&S | JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | FRY | CD 66 | CHILD DEVELOPMENT | 1 |
| | GREENSPAN | PAP 75 | PAPER AT CONFERENCE | 2 |
| | GRUSHCOW& | CD 71 | CHILD DEVELOPMENT | 1 |
| | HEIDER | JPSP 71 | J PERS & SOCIAL PSYC | 1 |
| | JOHNSON&G | LS 68 | LANGUAGE & SPEECH | 1 |
| | JOHNSTON& | BJP 68 | BRITISH J OF PSYCH | 1 |
| | KRAUSS& | JPSP 68 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS & | JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS& | JVLVB 67 | J OF VERBAL LEARNING | 1 |
| | PICHE & | CD 75 | CHILD DEVELOPMENT | 1 |
| | POZNER & | DP 74 | DEVELOPMENTAL PSYCH | 1 |
| | RATNER &R | REC 63 | PSYCH RECORD | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 2 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 2 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 3 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 4 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 5 |
| | SAMUELS& | JEDP 69 | J OF ED PSYCH | 1 |
| | SCHMIDT & | CD 70 | CHILD DEVELOPMENT | 1 |
| | SHANTZ & W | CD 72 | CHILD DEVELOPMENT | 1 |
| | TRIANDIS | HR 60 | HUMAN RELATIONS | 1 |
| | WHITEHURST | CD 76 | CHILD DEVELOPMENT | 2 |
| | WOOD & | BJP 75 | BRITISH J OF PSYCH | 1 |
| | | 37 | | |
| AGE NOT RELATED | | | | |
| | ASHER&ODEN | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER &P | JEDP 75 | J OF ED PSYCH | 3 |
| | GARMIZA&A | MPQ 76 | MERRILL-PALMER QTLY | 1 |
| | MEISSNER & | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | MENIG-PETE | CD 75 | CHILD DEVELOPMENT | 1 |
| | | 5 | | |
| AGE DIF FOUND | | | | |
| | ASHER | DP 76 | DEVELOPMENTAL PSYCH | 1 |

RESULTS OF AGE ANALYSES PAGE J - 2

| WAS AGE ANALYZED | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|---|---|
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 2 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 2 |
| | BEARISON&L | CD | 77 | CHILD DEVELOPMENT | 1 |
| | COHEN & KL | CD | 68 | CHILD DEVELOPMENT | 1 |
| | COSGROVE & | DP | 77 | DEVELOPMENTAL PSYCH | 1 |
| | DICKSON | DIS | 74 | DISSERTATION | 1 |
| | FISHBEIN& | MPQ | 71 | MERRILL-PALMER QTLY | 1 |
| | FISHBEIN& | MPQ | 71 | MERRILL-PALMER QTLY | 2 |
| | FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 1 |
| | FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 2 |
| | FRIEDENBRG | CD | 77 | CHILD DEVELOPMENT | 1 |
| | GENESEE & | CD | 75 | CHILD DEVELOPMENT | 1 |
| | GLUCKSBG | JECP | 66 | J OF EXPER CHILD PSY | 1 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 1 |
| | HIGGINS | GPM | 77 | GENETIC PSYCH MONOGR | 1 |
| | HOEMAN | CD | 72 | CHILD DEVELOPMENT | 1 |
| | HOY | DP | 75 | DEVELOPMENTAL PSYCH | 1 |
| | IRONSMITH& | CD | 78 | CHILD DEVELOPMENT | 1 |
| | IRONSMITH& | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | KARABENICK& | CD | 77 | CHILD DEVELOPMENT | 1 |
| | KRAUSS & G | CD | 69 | CHILD DEVELOPMENT | 1 |
| | KRAUSS & | MPQ | 68 | MERRILL-PALMER QTLY | 1 |
| | LONGHURST& | CD | 71 | CHILD DEVELOPMENT | 1 |
| | MARATSOS | CD | 73 | CHILD DEVELOPMENT | 1 |
| | MEISSNER | JEP | 75 | J OF ED PSYCH | 1 |
| | MEISSNER | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | PETERSON & | CD | 72 | CHILD DEVELOPMENT | 1 |
| | ROBINSON & | DP | 76 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP | 76 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 3 |
| | RUBIN | DP | 72 | DEVELOPMENTAL PSYCH | 1 |
| | RUBIN | CD | 73 | CHILD DEVELOPMENT | 1 |
| | SUSSWEIN & | CD | 75 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 1 |
| | WHITEHRST& | CD | 77 | CHILD DEVELOPMENT | 1 |

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TOTAL

80

TYPES OF SEX PAIRINGS USED PAGE K - 1

| SAME OR MIXED SEX | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|---|---|
| SUBJECTS NOT PAIRED | | | | | |
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 2 |
| | ASHER&ODEN | DP | 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 2 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 3 |
| | BEARISON&C | DP | 75 | DEVELOPMENTAL PSYCH | 1 |
| | BEARISON&L | CD | 77 | CHILD DEVELOPMENT | 1 |
| | COSGROVE & | DP | 77 | DEVELOPMENTAL PSYCH | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 |
| | DICKSON & | CD | 79 | CHILD DEVELOPMENT | 1 |
| | DICKSON&M | COG | 77 | COGNITION | 1 |
| | FRIEDENBRG | CD | 77 | CHILD DEVELOPMENT | 1 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 |
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 1 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 2 |
| | GRUSHCOW& | CD | 71 | CHILD DEVELOPMENT | 1 |
| | HEIDER | JPSP | 71 | J PERS & SOCIAL PSYC | 1 |
| | IRONSMITH& | CD | 78 | CHILD DEVELOPMENT | 1 |
| | IRONSMITH& | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | JOHNSON&G | LS | 68 | LANGUAGE & SPEECH | 1 |
| | KRAUSS& | JPSP | 68 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS& | JVLVB | 67 | J OF VERBAL LEARNING | 1 |
| | MARATSOS | CD | 73 | CHILD DEVELOPMENT | 1 |
| | MEISSNER | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | MEISSNER & | DP | 76 | DEVELOPMENTAL PSYCH | 1 |
| | MENIG-PETE | CD | 75 | CHILD DEVELOPMENT | 1 |
| | PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | PETERSON & | CD | 72 | CHILD DEVELOPMENT | 1 |
| | ROBINSON & | DP | 76 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP | 76 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 3 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 1 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 2 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 3 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 4 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 5 |
| | RUBIN | DP | 72 | DEVELOPMENTAL PSYCH | 1 |
| | RUBIN | CD | 73 | CHILD DEVELOPMENT | 1 |
| | SCHMIDT & | CD | 70 | CHILD DEVELOPMENT | 1 |
| | SHANTZ & W | CD | 72 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 2 |
| | WHITEHRST& | CD | 77 | CHILD DEVELOPMENT | 1 |
| | WOOD & | BJP | 75 | BRITISH J OF PSYCH | 1 |

TYPES OF SEX PAIRINGS USED 

| SAME OR MIXED SEX | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|---|
| | | 48 | | |
| HOMOGENEOUS PAIRS | | | | |
| | BALDWIN& | AERJ 73 | AMER ED RESEARCH J | 1 |
| | BALDWIN,M& | CD 71 | CHILD DEVELOPMENT | 1 |
| | BRILHART | JC 65 | J OF COMMUNICATION | 1 |
| | CHANDLER&G | DP 74 | DEVELOPMENTAL PSYCH | 1 |
| | CHAPANIS & | HF 72 | HUMAN FACTORS | 1 |
| | COHEN & KL | CD 68 | CHILD DEVELOPMENT | 1 |
| | DICKSON | DIS 74 | DISSERTATION | 1 |
| | DICKSON&M | PAP 79 | MISC: TECH REP, BULL | 1 |
| | FEFFER&S | JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 2 |
| | FORD & O | JECP 75 | J OF EXPER CHILD PSY | 1 |
| | FORD & O | JECP 75 | J OF EXPER CHILD PSY | 2 |
| | GENESEE & | CD 75 | CHILD DEVELOPMENT | 1 |
| | GLUCKSBG | JECP 66 | J OF EXPER CHILD PSY | 1 |
| | HIGGINS | GPM 77 | GENETIC PSYCH MONOGR | 1 |
| | HOEMAN | CD 72 | CHILD DEVELOPMENT | 1 |
| | HOY | DP 75 | DEVELOPMENTAL PSYCH | 1 |
| | JOHNSTON& | BJP 68 | BRITISH J OF PSYCH | 1 |
| | KARABENICK&C | D 77 | CHILD DEVELOPMENT | 1 |
| | KRAUSS & G | CD 69 | CHILD DEVELOPMENT | 1 |
| | KRAUSS & | MPQ 68 | MERRILL-PALMER QTLY | 1 |
| | KRAUSS & | JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | LONGHURST& | CD 71 | CHILD DEVELOPMENT | 1 |
| | MEISSNER | JEP 75 | J OF ED PSYCH | 1 |
| | PICHE & | CD 75 | CHILD DEVELOPMENT | 1 |
| | POZNER & | DP 74 | DEVELOPMENTAL PSYCH | 1 |
| | RATNER &R | REC 63 | PSYCH RECORD | 1 |
| | SAMUELS& | JEDP 69 | J OF ED PSYCH | 1 |
| | SUSSWEIN & | CD 75 | CHILD DEVELOPMENT | 1 |
| | TRIANDIS | HR 60 | HUMAN RELATIONS | 1 |
| | | 31 | | |
| SPECIAL NOTE | | | | |
| | DANKS | CP 70 | COGNITIVE PSYCH | 1 |
| | | 1 | | |
| TOTAL | | | | |
| | | 80 | | |

Appendix L

RESULTS OF SEX ANALYSES 

| WAS SEX ANALYZED | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|---|
| SEX NOT ANALYZED | | | | |
| | ASHER&ODEN | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER &P | JEDP 75 | J OF ED PSYCH | 1 |
| | ASHER &P | JEDP 75 | J OF ED PSYCH | 2 |
| | ASHER &P | JEDP 75 | J OF ED PSYCH | 3 |
| | CHAPANIS & | HF 72 | HUMAN FACTORS | 1 |
| | DICKSON&M | COG 77 | COGNITION | 1 |
| | DICKSON&M | PAP 79 | MISC: TECH REP, BULL | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 2 |
| | FRY | CD 66 | CHILD DEVELOPMENT | 1 |
| | GENESEE & | CD 75 | CHILD DEVELOPMENT | 1 |
| | GLUCKSBG | JECP 66 | J OF EXPER CHILD PSY | 1 |
| | JOHNSON&G | LS 68 | LANGUAGE & SPEECH | 1 |
| | KRAUSS & | MPQ 68 | MERRILL-PALMER QTLY | 1 |
| | KRAUSS& | JPSP 68 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS & | JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS& | JVLVB 67 | J OF VERBAL LEARNING | 1 |
| | LONGHURST& | CD 71 | CHILD DEVELOPMENT | 1 |
| | MARATSOS | CD 73 | CHILD DEVELOPMENT | 1 |
| | RATNER &R | REC 63 | PSYCH RECORD | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 3 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 2 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 3 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 4 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 5 |
| | SAMUELS& | JEDP 69 | J OF ED PSYCH | 1 |
| | TRIANDIS | HR 60 | HUMAN RELATIONS | 1 |

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| | | | | |
|---|---|---|---|---|
| SEX DIF NOT FOUND | | | | |
| | ASHER | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER | DP 76 | DEVELOPMENTAL PSYCH | 2 |
| | BALDWIN& | AERJ 73 | AMER ED RESEARCH J | 1 |
| | BALDWIN,M& | CD 71 | CHILD DEVELOPMENT | 1 |
| | BEARISON&L | CD 77 | CHILD DEVELOPMENT | 1 |
| | CHANDLER&G | DP 74 | DEVELOPMENTAL PSYCH | 1 |
| | COHEN & KL | CD 68 | CHILD DEVELOPMENT | 1 |
| | DICKSON | DIS 74 | DISSERTATION | 1 |
| | DICKSON & | CD 79 | CHILD DEVELOPMENT | 1 |
| | FEFFER&S | JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | FRIEDENBRG | CD 77 | CHILD DEVELOPMENT | 1 |
| | GRUSHCOW& | CD 71 | CHILD DEVELOPMENT | 1 |
| | HEIDER | JPSP 71 | J PERS & SOCIAL PSYC | 1 |
| | HIGGINS | GPM 77 | GENETIC PSYCH MONOGR | 1 |

RESULTS OF SEX ANALYSES PAGE L - 2

| WAS SEX ANALYZED | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|---|---|
| | HOEMAN | CD | 72 | CHILD DEVELOPMENT | 1 |
| | HOY | DP | 75 | DEVELOPMENTAL PSYCH | 1 |
| | IRONSMITH& | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | JOHNSTON& | BJP | 68 | BRITISH J OF PSYCH | 1 |
| | MEISSNER & | DP | 76 | DEVELOPMENTAL PSYCH | 1 |
| | MENIG-PETE | CD | 75 | CHILD DEVELOPMENT | 1 |
| | PICHE & | CD | 75 | CHILD DEVELOPMENT | 1 |
| | POZNER & | DP | 74 | DEVELOPMENTAL PSYCH | 1 |
| | RUBIN | DP | 72 | DEVELOPMENTAL PSYCH | 1 |
| | SHANTZ & W | CD | 72 | CHILD DEVELOPMENT | 1 |
| | SUSSWEIN & | CD | 75 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 2 |
| | WHITEHRST& | CD | 77 | CHILD DEVELOPMENT | 1 |
| | | | 28 | | |
| SEX DIF FOUND | | | | | |
| | BEARISON&C | DP | 75 | DEVELOPMENTAL PSYCH | 1 |
| | BRILHART | JC | 65 | J OF COMMUNICATION | 1 |
| | DANKS | CP | 70 | COGNITIVE PSYCH | 1 |
| | IRONSMITH& | CD | 78 | CHILD DEVELOPMENT | 1 |
| | KARABENICK& | CD | 77 | CHILD DEVELOPMENT | 1 |
| | MEISSNER | JEP | 75 | J OF ED PSYCH | 1 |
| | MEISSNER | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | | | 7 | | |
| NOT SURE IF ANALYZED | | | | | |
| | COSGROVE & | DP | 77 | DEVELOPMENTAL PSYCH | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 |
| | FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 1 |
| | FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 2 |
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 1 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 2 |
| | KRAUSS & G | CD | 69 | CHILD DEVELOPMENT | 1 |
| | PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | PETERSON & | CD | 72 | CHILD DEVELOPMENT | 1 |
| | RUBIN | CD | 73 | CHILD DEVELOPMENT | 1 |
| | SCHMIDT & | CD | 70 | CHILD DEVELOPMENT | 1 |
| | WOOD & | BJP | 75 | BRITISH J OF PSYCH | 1 |
| | | | 13 | | |
| TOTAL | | | | | |
| | | | 80 | | |

SOCIOECONOMIC STATUS OF SUBJECTS PAGE M - 1

| SOCIOECONOMIC STAT | AUTHORS PUB YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|
| NOT REPORTED | | | |
| | CHAPANIS & HF 72 | HUMAN FACTORS | 1 |
| | DANKS CP 70 | COGNITIVE PSYCH | 1 |
| | FEFFER&S JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | FISHBEIN& MPQ 71 | MERRILL-PALMER QTLY | 1 |
| | FISHBEIN& MPQ 71 | MERRILL-PALMER QTLY | 2 |
| | FRY CD 66 | CHILD DEVELOPMENT | 1 |
| | GENESEE & CD 75 | CHILD DEVELOPMENT | 1 |
| | GLUCKSBG JECP 66 | J OF EXPER CHILD PSY | 1 |
| | JOHNSON&G LS 68 | LANGUAGE & SPEECH | 1 |
| | KRAUSS & G CD 69 | CHILD DEVELOPMENT | 1 |
| | KRAUSS& JPSP 68 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS & JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS& JVLVB 67 | J OF VERBAL LEARNING | 1 |
| | LONGHURST& CD 71 | CHILD DEVELOPMENT | 1 |
| | PETERSON & CD 72 | CHILD DEVELOPMENT | 1 |
| | PICHE & CD 75 | CHILD DEVELOPMENT | 1 |
| | RATNER &R REC 63 | PSYCH RECORD | 1 |
| | ROBINSON & DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & DP 76 | DEVELOPMENTAL PSYCH | 2 |
| | SAMUELS& JEDP 69 | J OF ED PSYCH | 1 |
| | SHANTZ & W CD 72 | CHILD DEVELOPMENT | 1 |
| | SUSSWEIN & CD 75 | CHILD DEVELOPMENT | 1 |
| | TRIANDIS HR 60 | HUMAN RELATIONS | 1 |
| | WHITEHRST& CD 77 | CHILD DEVELOPMENT | 1 |
| | WOOD & BJP 75 | BRITISH J OF PSYCH | 1 |
| | 25 | | |
| LOW | | | |
| | CHANDLER&G DP 74 | DEVELOPMENTAL PSYCH | 1 |
| | GARMIZA&A MPQ 76 | MERRILL-PALMER QTLY | 1 |
| | GREENSPAN PAP 75 | PAPER AT CONFERENCE | 2 |
| | HOY DP 75 | DEVELOPMENTAL PSYCH | 1 |
| | MEISSNER JEP 75 | J OF ED PSYCH | 1 |
| | MEISSNER & DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | 6 | | |
| MIDDLE | | | |
| | ASHER DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER DP 76 | DEVELOPMENTAL PSYCH | 2 |
| | ASHER&ODEN DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER &P JEDP 75 | J OF ED PSYCH | 1 |
| | ASHER &P JEDP 75 | J OF ED PSYCH | 2 |
| | ASHER &P JEDP 75 | J OF ED PSYCH | 3 |
| | BEARISON&L CD 77 | CHILD DEVELOPMENT | 1 |
| | BRILHART JC 65 | J OF COMMUNICATION | 1 |
| | COHEN & KL CD 68 | CHILD DEVELOPMENT | 1 |
| | COSGROVE & DP 77 | DEVELOPMENTAL PSYCH | 1 |
| | COSGROVE & CD 78 | CHILD DEVELOPMENT | 1 |
| | DICKSON&M PAP 79 | MISC: TECH REP, BULL | 1 |

SOCIOECONOMIC STATUS OF SUBJECTS PAGE M - 2

| SOCIOECONOMIC STAT | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|---|---|
| | FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 1 |
| | FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 2 |
| | FRIEDENBRG | CD | 77 | CHILD DEVELOPMENT | 1 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 1 |
| | GRUSHCOW& | CD | 71 | CHILD DEVELOPMENT | 1 |
| | HOEMAN | CD | 72 | CHILD DEVELOPMENT | 1 |
| | IRONSMITH& | CD | 78 | CHILD DEVELOPMENT | 1 |
| | IRONSMITH& | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | KARABENICK& | CD | 77 | CHILD DEVELOPMENT | 1 |
| | MARATSOS | CD | 73 | CHILD DEVELOPMENT | 1 |
| | MEISSNER | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | MENIG-PETE | CD | 75 | CHILD DEVELOPMENT | 1 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 3 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 1 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 2 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 3 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 4 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 5 |
| | RUBIN | DP | 72 | DEVELOPMENTAL PSYCH | 1 |
| | RUBIN | CD | 73 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 2 |
| | | | 36 | | |
| UPPER MIDDLE | | | | | |
| | BEARISON&C | DP | 75 | DEVELOPMENTAL PSYCH | 1 |
| | DICKSON&M | COG | 77 | COGNITION | 1 |
| | PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | | | 3 | | |
| LOW VS MIDDLE | | | | | |
| | BALDWIN& | AERJ | 73 | AMER ED RESEARCH J | 1 |
| | BALDWIN,M& | CD | 71 | CHILD DEVELOPMENT | 1 |
| | HEIDER | JPSP | 71 | J PERS & SOCIAL PSYC | 1 |
| | HIGGINS | GPM | 77 | GENETIC PSYCH MONOGR | 1 |
| | JOHNSTON& | BJP | 68 | BRITISH J OF PSYCH | 1 |
| | KRAUSS & | MPQ | 68 | MERRILL-PALMER QTLY | 1 |
| | POZNER & | DP | 74 | DEVELOPMENTAL PSYCH | 1 |
| | | | 7 | | |
| LOW VS HIGH | | | | | |
| | SCHMIDT & | CD | 70 | CHILD DEVELOPMENT | 1 |
| | | | 1 | | |
| MIDDLE VS HIGH | | | | | |
| | DICKSON | DIS | 74 | DISSERTATION | 1 |
| | DICKSON & | CD | 79 | CHILD DEVELOPMENT | 1 |

RESULTS OF SES ANALYSES PAGE N - 1

| SES RELATED / SES NOT ANALYZED | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|---|---|
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 2 |
| | ASHER&ODEN | DP | 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 2 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 3 |
| | BEARISON&C | DP | 75 | DEVELOPMENTAL PSYCH | 1 |
| | BEARISON&L | CD | 77 | CHILD DEVELOPMENT | 1 |
| | BRILHART | JC | 65 | J OF COMMUNICATION | 1 |
| | CHANDLER&G | DP | 74 | DEVELOPMENTAL PSYCH | 1 |
| | CHAPANIS & | HF | 72 | HUMAN FACTORS | 1 |
| | COHEN & KL | CD | 68 | CHILD DEVELOPMENT | 1 |
| | COSGROVE & | DP | 77 | DEVELOPMENTAL PSYCH | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 |
| | DANKS | CP | 70 | COGNITIVE PSYCH | 1 |
| | DICKSON&M | COG | 77 | COGNITION | 1 |
| | DICKSON&M | PAP | 79 | MISC: TECH REP, BULL | 1 |
| | FEFFER&S | JPSP | 66 | J PERS & SOCIAL PSYC | 1 |
| | FISHBEIN& | MPQ | 71 | MERRILL-PALMER QTLY | 1 |
| | FISHBEIN& | MPQ | 71 | MERRILL-PALMER QTLY | 2 |
| | FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 1 |
| | FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 2 |
| | FRIEDENBRG | CD | 77 | CHILD DEVELOPMENT | 1 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 |
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 |
| | GENESEE & | CD | 75 | CHILD DEVELOPMENT | 1 |
| | GLUCKSBG | JECP | 66 | J OF EXPER CHILD PSY | 1 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 1 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 2 |
| | GRUSHCOW& | CD | 71 | CHILD DEVELOPMENT | 1 |
| | HOEMAN | CD | 72 | CHILD DEVELOPMENT | 1 |
| | HOY | DP | 75 | DEVELOPMENTAL PSYCH | 1 |
| | IRONSMITH& | CD | 78 | CHILD DEVELOPMENT | 1 |
| | IRONSMITH& | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | JOHNSON&G | LS | 68 | LANGUAGE & SPEECH | 1 |
| | KARABENICK&C | CD | 77 | CHILD DEVELOPMENT | 1 |
| | KRAUSS & G | CD | 69 | CHILD DEVELOPMENT | 1 |
| | KRAUSS& | JPSP | 68 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS & | JPSP | 66 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS& | JVLVB | 67 | J OF VERBAL LEARNING | 1 |
| | LONGHURST& | CD | 71 | CHILD DEVELOPMENT | 1 |
| | MARATSOS | CD | 73 | CHILD DEVELOPMENT | 1 |
| | MEISSNER | JEP | 75 | J OF ED PSYCH | 1 |
| | MEISSNER | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | MEISSNER & | DP | 76 | DEVELOPMENTAL PSYCH | 1 |
| | MENIG-PETE | CD | 75 | CHILD DEVELOPMENT | 1 |
| | PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | PETERSON & | CD | 72 | CHILD DEVELOPMENT | 1 |
| | PICHE & | CD | 75 | CHILD DEVELOPMENT | 1 |

RESULTS OF SES ANALYSES PAGE N - 2

| SES RELATED | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|---|
| | RATNER &R | REC 63 | PSYCH RECORD | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 3 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 2 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 3 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 4 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 5 |
| | RUBIN | DP 72 | DEVELOPMENTAL PSYCH | 1 |
| | RUBIN | CD 73 | CHILD DEVELOPMENT | 1 |
| | SAMUELS& | JEDP 69 | J OF ED PSYCH | 1 |
| | SHANTZ & W | CD 72 | CHILD DEVELOPMENT | 1 |
| | SUSSWEIN & | CD 75 | CHILD DEVELOPMENT | 1 |
| | TRIANDIS | HP 60 | HUMAN RELATIONS | 1 |
| | WHITEHURST | CD 76 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST | CD 76 | CHILD DEVELOPMENT | 2 |
| | WHITEHRST& | CD 77 | CHILD DEVELOPMENT | 1 |
| | WOOD & | BJP 75 | BRITISH J OF PSYCH | 1 |
| | | | 70 | |
| SES DIFF NOT FOUND | | | | |
| | DICKSON | DIS 74 | DISSERTATION | 1 |
| | HIGGINS | GPM 77 | GENETIC PSYCH MONOGR | 1 |
| | | | 2 | |
| SES DIF FOUND | | | | |
| | BALDWIN& | AERJ 73 | AMER ED RESEARCH J | 1 |
| | BALDWIN,M& | CD 71 | CHILD DEVELOPMENT | 1 |
| | DICKSON & | CD 79 | CHILD DEVELOPMENT | 1 |
| | HEIDER | JPSP 71 | J PERS & SOCIAL PSYC | 1 |
| | JOHNSTON& | BJP 68 | BRITISH J OF PSYCH | 1 |
| | KRAUSS & | MPQ 68 | MERRILL-PALMER QTLY | 1 |
| | POZNER & | DP 74 | DEVELOPMENTAL PSYCH | 1 |
| | SCHMIDT & | CD 70 | CHILD DEVELOPMENT | 1 |
| | | | 8 | |
| TOTAL | | | | |
| | | | 80 | |

131 **Appendix O**

IQ OR ABILITY LEVEL OF SUBJECTS PAGE O - 1

| IQ OR ABILITY | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|---|
| NO MEASURE | | | | |
| | COSGROVE & | DP 77 | DEVELOPMENTAL PSYCH | 1 |
| | DANKS | CP 70 | COGNITIVE PSYCH | 1 |
| | DICKSON&M | COG 77 | COGNITION | 1 |
| | DICKSON&M | PAP 79 | MISC: TECH REP, BULL | 1 |
| | FEFFER&S | JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 2 |
| | FORD & O | JECP 75 | J OF EXPER CHILD PSY | 1 |
| | FORD & O | JECP 75 | J OF EXPER CHILD PSY | 2 |
| | FRIEDENBRG | CD 77 | CHILD DEVELOPMENT | 1 |
| | GARMIZA&A | MPQ 76 | MERRILL-PALMER QTLY | 1 |
| | GENESEE & | CD 75 | CHILD DEVELOPMENT | 1 |
| | GLUCKSBG | JECP 66 | J OF EXPER CHILD PSY | 1 |
| | GRUSHCOW& | CD 71 | CHILD DEVELOPMENT | 1 |
| | HEIDER | JPSP 71 | J PERS & SOCIAL PSYC | 1 |
| | IRONSMITH& | CD 78 | CHILD DEVELOPMENT | 1 |
| | IRONSMITH& | DP 78 | DEVELOPMENTAL PSYCH | 1 |
| | JOHNSON&G | LS 68 | LANGUAGE & SPEECH | 1 |
| | KARABENICK&CD | 77 | CHILD DEVELOPMENT | 1 |
| | KRAUSS & | MPQ 68 | MERRILL-PALMER QTLY | 1 |
| | KRAUSS& | JPSP 68 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS& | JVLVB 67 | J OF VERBAL LEARNING | 1 |
| | MARATSOS | CD 73 | CHILD DEVELOPMENT | 1 |
| | MEISSNER | DP 78 | DEVELOPMENTAL PSYCH | 1 |
| | MEISSNER & | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | MENIG-PETE | CD 75 | CHILD DEVELOPMENT | 1 |
| | PATTERSON& | DP 78 | DEVELOPMENTAL PSYCH | 1 |
| | PETERSON & | CD 72 | CHILD DEVELOPMENT | 1 |
| | RATNER &R | REC 63 | PSYCH RECORD | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 3 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 2 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 3 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 4 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 5 |
| | SCHMIDT & | CD 70 | CHILD DEVELOPMENT | 1 |
| | SHANTZ & W | CD 72 | CHILD DEVELOPMENT | 1 |
| | SUSSWEIN & | CD 75 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST | CD 76 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST | CD 76 | CHILD DEVELOPMENT | 2 |
| | WHITEHRST& | CD 77 | CHILD DEVELOPMENT | 1 |
| | WOOD & | BJP 75 | BRITISH J OF PSYCH | 1 |

IQ OR ABILITY LEVEL OF SUBJECTS PAGE 0 - 2

| IQ OR ABILITY | AUTHORS PUB YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|
| MIDDLE 90-110 IQ | | | |
| | ASHER&ODEN DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER &P JEDP 75 | J OF ED PSYCH | 1 |
| | ASHER &P JEDP 75 | J OF ED PSYCH | 2 |
| | ASHER &P JEDP 75 | J OF ED PSYCH | 3 |
| | BALDWIN& AERJ 73 | AMER ED RESEARCH J | 1 |
| | BALDWIN,M& CD 71 | CHILD DEVELOPMENT | 1 |
| | BEARISON&L CD 77 | CHILD DEVELOPMENT | 1 |
| | CHANDLER&G DP 74 | DEVELOPMENTAL PSYCH | 1 |
| | COSGROVE & CD 78 | CHILD DEVELOPMENT | 1 |
| | GREENSPAN PAP 75 | PAPER AT CONFERENCE | 1 |
| | GREENSPAN PAP 75 | PAPER AT CONFERENCE | 2 |
| | HIGGINS GPM 77 | GENETIC PSYCH MONOGR | 1 |
| | HOY DP 75 | DEVELOPMENTAL PSYCH | 1 |
| | JOHNSTON& BJP 68 | BRITISH J OF PSYCH | 1 |
| | KRAUSS & G CD 69 | CHILD DEVELOPMENT | 1 |
| | KRAUSS & JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | LONGHURST& CD 71 | CHILD DEVELOPMENT | 1 |
| | MEISSNER JEP 75 | J OF ED PSYCH | 1 |
| | PICHE & CD 75 | CHILD DEVELOPMENT | 1 |
| | POZNER & DP 74 | DEVELOPMENTAL PSYCH | 1 |
| | TRIANDIS HR 60 | HUMAN RELATIONS | 1 |
| | 21 | | |
| HIGH >110 IQ | | | |
| | ASHER DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER DP 76 | DEVELOPMENTAL PSYCH | 2 |
| | FRY CD 66 | CHILD DEVELOPMENT | 1 |
| | 3 | | |
| LOW VS MIDDLE | | | |
| | HOEMAN CD 72 | CHILD DEVELOPMENT | 1 |
| | 1 | | |
| MIDDLE VS HIGH | | | |
| | DICKSON DIS 74 | DISSERTATION | 1 |
| | DICKSON & CD 79 | CHILD DEVELOPMENT | 1 |
| | 2 | | |
| SPECIAL NOTE | | | |
| | BEARISON&C DP 75 | DEVELOPMENTAL PSYCH | 1 |
| | BRILHART JC 65 | J OF COMMUNICATION | 1 |
| | CHAPANIS & HF 72 | HUMAN FACTORS | 1 |
| | COHEN & KL CD 68 | CHILD DEVELOPMENT | 1 |
| | RUBIN DP 72 | DEVELOPMENTAL PSYCH | 1 |
| | RUBIN CD 73 | CHILD DEVELOPMENT | 1 |
| | SAMUELS& JEDP 69 | J OF ED PSYCH | 1 |
| | 7 | | |

Appendix P

RESULTS OF IQ ANALYSES 

| WAS IQ ANALYZED | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|---|
| NO IQ MEASURE | | | | |
| | COSGROVE & | DP 77 | DEVELOPMENTAL PSYCH | 1 |
| | DANKS | CP 70 | COGNITIVE PSYCH | 1 |
| | DICKSON&M | COG 77 | COGNITION | 1 |
| | DICKSON&M | PAP 79 | MISC: TECH REP, BULL | 1 |
| | FEFFER&S | JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 2 |
| | FORD & O | JECP 75 | J OF EXPER CHILD PSY | 1 |
| | FORD & O | JECP 75 | J OF EXPER CHILD PSY | 2 |
| | FRIEDENBRG | CD 77 | CHILD DEVELOPMENT | 1 |
| | GARMIZA&A | MPQ 76 | MERRILL-PALMER QTLY | 1 |
| | GENESEE & | CD 75 | CHILD DEVELOPMENT | 1 |
| | GLUCKSBG | JECP 66 | J OF EXPER CHILD PSY | 1 |
| | GRUSHCOW& | CD 71 | CHILD DEVELOPMENT | 1 |
| | HEIDER | JPSP 71 | J PERS & SOCIAL PSYC | 1 |
| | IRONSMITH& | CD 78 | CHILD DEVELOPMENT | 1 |
| | IRONSMITH& | DP 78 | DEVELOPMENTAL PSYCH | 1 |
| | JOHNSON&G | LS 68 | LANGUAGE & SPEECH | 1 |
| | KARABENICK&C | D 77 | CHILD DEVELOPMENT | 1 |
| | KRAUSS & | MPQ 68 | MERRILL-PALMER QTLY | 1 |
| | KRAUSS& | JPSP 68 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS& | JVLVB 67 | J OF VERBAL LEARNING | 1 |
| | MARATSOS | CD 73 | CHILD DEVELOPMENT | 1 |
| | MEISSNER | DP 78 | DEVELOPMENTAL PSYCH | 1 |
| | MEISSNER & | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | MENIG-PETE | CD 75 | CHILD DEVELOPMENT | 1 |
| | PATTERSON& | DP 78 | DEVELOPMENTAL PSYCH | 1 |
| | PETERSON & | CD 72 | CHILD DEVELOPMENT | 1 |
| | RATNER &R | REC 63 | PSYCH RECORD | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 3 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 2 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 3 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 4 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 5 |
| | SCHMIDT & | CD 70 | CHILD DEVELOPMENT | 1 |
| | SHANTZ & W | CD 72 | CHILD DEVELOPMENT | 1 |
| | SUSSWEIN & | CD 75 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST | CD 76 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST | CD 76 | CHILD DEVELOPMENT | 2 |
| | WHITEHRST& | CD 77 | CHILD DEVELOPMENT | 1 |
| | WOOD & | BJP 75 | BRITISH J OF PSYCH | 1 |

RESULTS OF IQ ANALYSES PAGE P - 2

| WAS IQ ANALYZED | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|---|---|
| IQ DIF NOT FOUND | | | | | |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 3 |
| | KRAUSS & G | CD | 69 | CHILD DEVELOPMENT | 1 |
| | SAMUELS& | JEDP | 69 | J OF ED PSYCH | 1 |
| | | | | 3 | |
| IQ DIF FOUND | | | | | |
| | BALDWIN,M& | CD | 71 | CHILD DEVELOPMENT | 1 |
| | DICKSON | DIS | 74 | DISSERTATION | 1 |
| | DICKSON & | CD | 79 | CHILD DEVELOPMENT | 1 |
| | HIGGINS | GPM | 77 | GENETIC PSYCH MONOGR | 1 |
| | RUBIN | CD | 73 | CHILD DEVELOPMENT | 1 |
| | | | | 5 | |
| NOT SURE IF ANALYZED | | | | | |
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 2 |
| | ASHER&ODEN | DP | 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 2 |
| | BALDWIN& | AERJ | 73 | AMER ED RESEARCH J | 1 |
| | BEARISON&C | DP | 75 | DEVELOPMENTAL PSYCH | 1 |
| | BEARISON&L | CD | 77 | CHILD DEVELOPMENT | 1 |
| | BRILHART | JC | 65 | J OF COMMUNICATION | 1 |
| | CHANDLER&G | DP | 74 | DEVELOPMENTAL PSYCH | 1 |
| | CHAPANIS & | HF | 72 | HUMAN FACTORS | 1 |
| | COHEN & KL | CD | 68 | CHILD DEVELOPMENT | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 1 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 2 |
| | HOEMAN | CD | 72 | CHILD DEVELOPMENT | 1 |
| | HOY | DP | 75 | DEVELOPMENTAL PSYCH | 1 |
| | JOHNSTON& | BJP | 68 | BRITISH J OF PSYCH | 1 |
| | KRAUSS & | JPSP | 66 | J PERS & SOCIAL PSYC | 1 |
| | LONGHURST& | CD | 71 | CHILD DEVELOPMENT | 1 |
| | MEISSNER | JEP | 75 | J OF ED PSYCH | 1 |
| | PICHE & | CD | 75 | CHILD DEVELOPMENT | 1 |
| | POZNER & | DP | 74 | DEVELOPMENTAL PSYCH | 1 |
| | RUBIN | DP | 72 | DEVELOPMENTAL PSYCH | 1 |
| | TRIANDIS | HR | 60 | HUMAN RELATIONS | 1 |
| | | | | 26 | |
| TOTAL | | | | | |
| | | | | 80 | |

Appendix Q

EGOCENTRISM OR ROLE TAKING MEASURES PAGE Q - 1

| EGOCENTRISM | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|---|
| NO MEASURE | | | | |
| | ASHER | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER | DP 76 | DEVELOPMENTAL PSYCH | 2 |
| | ASHER &P | JEDP 75 | J OF ED PSYCH | 1 |
| | ASHER &P | JEDP 75 | J OF ED PSYCH | 2 |
| | ASHER &P | JEDP 75 | J OF ED PSYCH | 3 |
| | BALDWIN& | AERJ 73 | AMER ED RESEARCH J | 1 |
| | BALDWIN,M& | CD 71 | CHILD DEVELOPMENT | 1 |
| | BEARISON&L | CD 77 | CHILD DEVELOPMENT | 1 |
| | BRILHART | JC 65 | J OF COMMUNICATION | 1 |
| | CHAPANIS & | HF 72 | HUMAN FACTORS | 1 |
| | COHEN & KL | CD 68 | CHILD DEVELOPMENT | 1 |
| | COSGROVE & | DP 77 | DEVELOPMENTAL PSYCH | 1 |
| | COSGROVE & | CD 78 | CHILD DEVELOPMENT | 1 |
| | DICKSON | DIS 74 | DISSERTATION | 1 |
| | DICKSON & | CD 79 | CHILD DEVELOPMENT | 1 |
| | DICKSON&M | COG 77 | COGNITION | 1 |
| | DICKSON&M | PAP 79 | MISC: TECH REP, BULL | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 2 |
| | FORD & O | JECP 75 | J OF EXPER CHILD PSY | 1 |
| | FORD & O | JECP 75 | J OF EXPER CHILD PSY | 2 |
| | FRIEDENBRG | CD 77 | CHILD DEVELOPMENT | 1 |
| | FRY | CD 66 | CHILD DEVELOPMENT | 1 |
| | GLUCKSBG | JECP 66 | J OF EXPER CHILD PSY | 1 |
| | GRUSHCOW& | CD 71 | CHILD DEVELOPMENT | 1 |
| | HEIDER | JPSP 71 | J PERS & SOCIAL PSYC | 1 |
| | HOY | DP 75 | DEVELOPMENTAL PSYCH | 1 |
| | IRONSMITH& | CD 78 | CHILD DEVELOPMENT | 1 |
| | IRONSMITH& | DP 78 | DEVELOPMENTAL PSYCH | 1 |
| | JOHNSON&G | LS 68 | LANGUAGE & SPEECH | 1 |
| | JOHNSTON& | BJP 68 | BRITISH J OF PSYCH | 1 |
| | KARABENICK& | CD 77 | CHILD DEVELOPMENT | 1 |
| | KRAUSS & G | CD 69 | CHILD DEVELOPMENT | 1 |
| | KRAUSS & | MPQ 68 | MERRILL-PALMER QTLY | 1 |
| | KRAUSS & | JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS& | JVLVB 67 | J OF VERBAL LEARNING | 1 |
| | LONGHURST& | CD 71 | CHILD DEVELOPMENT | 1 |
| | MEISSNER | JEP 75 | J OF ED PSYCH | 1 |
| | MEISSNER | DP 78 | DEVELOPMENTAL PSYCH | 1 |
| | PATTERSON& | DP 78 | DEVELOPMENTAL PSYCH | 1 |
| | PETERSON & | CD 72 | CHILD DEVELOPMENT | 1 |
| | RATNER &R | REC 63 | PSYCH RECORD | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 3 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 2 |

EGOCENTRISM OR ROLE TAKING MEASURES PAGE Q - 2

| EGOCENTRISM | AUTHORS PUB YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|
| | ROSENBRG& REV 66 | PSYCH REVIEW | 3 |
| | ROSENBRG& REV 66 | PSYCH REVIEW | 4 |
| | ROSENBRG& REV 66 | PSYCH REVIEW | 5 |
| | RUBIN DP 72 | DEVELOPMENTAL PSYCH | 1 |
| | SAMUELS& JEDP 69 | J OF ED PSYCH | 1 |
| | SCHMIDT & CD 70 | CHILD DEVELOPMENT | 1 |
| | SHANTZ & W CD 72 | CHILD DEVELOPMENT | 1 |
| | SUSSWEIN & CD 75 | CHILD DEVELOPMENT | 1 |
| | TRIANDIS HR 60 | HUMAN RELATIONS | 1 |
| | WHITEHURST CD 76 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST CD 76 | CHILD DEVELOPMENT | 2 |
| | WHITEHRST& CD 77 | CHILD DEVELOPMENT | 1 |
| | WOOD & BJP 75 | BRITISH J OF PSYCH | 1 |
| | | 62 | |
| DIFFERENT LISTENER | | | |
| | BEARISON&C DP 75 | DEVELOPMENTAL PSYCH | 1 |
| | GARMIZA&A MPQ 76 | MERRILL-PALMER QTLY | 1 |
| | GENESEE & CD 75 | CHILD DEVELOPMENT | 1 |
| | HIGGINS GPM 77 | GENETIC PSYCH MONOGR | 1 |
| | HOEMAN CD 72 | CHILD DEVELOPMENT | 1 |
| | MARATSOS CD 73 | CHILD DEVELOPMENT | 1 |
| | MEISSNER & DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | MENIG-PETE CD 75 | CHILD DEVELOPMENT | 1 |
| | | 8 | |
| SELF-ENCODE VS OTHER | | | |
| | ASHER&ODEN DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | DANKS CP 70 | COGNITIVE PSYCH | 1 |
| | KRAUSS& JPSP 68 | J PERS & SOCIAL PSYC | 1 |
| | | 3 | |
| CORRELATIONAL | | | |
| | CHANDLER&G DP 74 | DEVELOPMENTAL PSYCH | 1 |
| | FEFFER&S JPSP 66 | J PERS & SOCIAL PSYC | 1 |
| | GREENSPAN PAP 75 | PAPER AT CONFERENCE | 1 |
| | GREENSPAN PAP 75 | PAPER AT CONFERENCE | 2 |
| | PICHE & CD 75 | CHILD DEVELOPMENT | 1 |
| | RUBIN CD 73 | CHILD DEVELOPMENT | 1 |
| | | 6 | |
| SPECIAL NOTE | | | |
| | POZNER & DP 74 | DEVELOPMENTAL PSYCH | 1 |
| | | 1 | |
| TOTAL | | | |
| | | 80 | |

SPECIAL CHARACTERISTICS OF SUBJECTS PAGE R - 1

| CHARACTERISTICS | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|---|---|
| NO SPECIAL CHARACT | | | | | |
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 2 |
| | ASHER&ODEN | DP | 76 | DEVELOPMENTAL PSYCH | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 2 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 3 |
| | BEARISON&C | DP | 75 | DEVELOPMENTAL PSYCH | 1 |
| | BEARISON&L | CD | 77 | CHILD DEVELOPMENT | 1 |
| | BRILHART | JC | 65 | J OF COMMUNICATION | 1 |
| | COHEN & KL | CD | 68 | CHILD DEVELOPMENT | 1 |
| | COSGROVE & | DP | 77 | DEVELOPMENTAL PSYCH | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 |
| | DANKS | CP | 70 | COGNITIVE PSYCH | 1 |
| | DICKSON | DIS | 74 | DISSERTATION | 1 |
| | FEFFER&S | JPSP | 66 | J PERS & SOCIAL PSYC | 1 |
| | FISHBEIN& | MPQ | 71 | MERRILL-PALMER QTLY | 1 |
| | FISHBEIN& | MPQ | 71 | MERRILL-PALMER QTLY | 2 |
| | FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 1 |
| | FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 2 |
| | FRIEDENBRG | CD | 77 | CHILD DEVELOPMENT | 1 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 |
| | GLUCKSBG | JECP | 66 | J OF EXPER CHILD PSY | 1 |
| | GRUSHCOW& | CD | 71 | CHILD DEVELOPMENT | 1 |
| | HIGGINS | GPM | 77 | GENETIC PSYCH MONOGR | 1 |
| | HOY | DP | 75 | DEVELOPMENTAL PSYCH | 1 |
| | IRONSMITH& | CD | 78 | CHILD DEVELOPMENT | 1 |
| | IRONSMITH& | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | JOHNSON&G | LS | 68 | LANGUAGE & SPEECH | 1 |
| | JOHNSTON& | BJP | 68 | BRITISH J OF PSYCH | 1 |
| | KARABENICK&C | CD | 77 | CHILD DEVELOPMENT | 1 |
| | KRAUSS & G | CD | 69 | CHILD DEVELOPMENT | 1 |
| | KRAUSS& | JPSP | 68 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS & | JPSP | 66 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS& | JVLVB | 67 | J OF VERBAL LEARNING | 1 |
| | LONGHURST& | CD | 71 | CHILD DEVELOPMENT | 1 |
| | MARATSOS | CD | 73 | CHILD DEVELOPMENT | 1 |
| | MEISSNER | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | MENIG-PETE | CD | 75 | CHILD DEVELOPMENT | 1 |
| | PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 1 |
| | PETERSON & | CD | 72 | CHILD DEVELOPMENT | 1 |
| | PICHE & | CD | 75 | CHILD DEVELOPMENT | 1 |
| | POZNER & | DP | 74 | DEVELOPMENTAL PSYCH | 1 |
| | RATNER &R | REC | 63 | PSYCH RECORD | 1 |
| | ROBINSON & | DP | 76 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP | 76 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 1 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 2 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 3 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 1 |

SPECIAL CHARACTERISTICS OF SUBJECTS PAGE R - 2

| CHARACTERISTICS | AUTHORS PUB YEAR | JOURNAL OR SOURCE | EXP |
|---|---|---|---|
| | ROSENBRG& REV 66 | PSYCH REVIEW | 2 |
| | ROSENBRG& REV 66 | PSYCH REVIEW | 3 |
| | ROSENBRG& REV 66 | PSYCH REVIEW | 4 |
| | ROSENBRG& REV 66 | PSYCH REVIEW | 5 |
| | RUBIN DP 72 | DEVELOPMENTAL PSYCH | 1 |
| | RUBIN CD 73 | CHILD DEVELOPMENT | 1 |
| | SCHMIDT & CD 70 | CHILD DEVELOPMENT | 1 |
| | SHANTZ & W CD 72 | CHILD DEVELOPMENT | 1 |
| | TRIANDIS HR 60 | HUMAN RELATIONS | 1 |
| | WHITEHURST CD 76 | CHILD DEVELOPMENT | 1 |
| | WHITEHURST CD 76 | CHILD DEVELOPMENT | 2 |
| | WHITEHRST& CD 77 | CHILD DEVELOPMENT | 1 |
| | WOOD & BJP 75 | BRITISH J OF PSYCH | 1 |
| | | 62 | |
| RACE NOT WHITE | | | |
| | BALDWIN& AERJ 73 | AMER ED RESEARCH J | 1 |
| | BALDWIN,M& CD 71 | CHILD DEVELOPMENT | 1 |
| | CHAPANIS & HF 72 | HUMAN FACTORS | 1 |
| | GARMIZA&A MPQ 76 | MERRILL-PALMER QTLY | 1 |
| | HEIDER JPSP 71 | J PERS & SOCIAL PSYC | 1 |
| | KRAUSS & MPQ 68 | MERRILL-PALMER QTLY | 1 |
| | MEISSNER JEP 75 | J OF ED PSYCH | 1 |
| | MEISSNER & DP 76 | DEVELOPMENTAL PSYCH | 1 |
| | SUSSWEIN & CD 75 | CHILD DEVELOPMENT | 1 |
| | | 9 | |
| NOT ENGLISH | | | |
| | DICKSON & CD 79 | CHILD DEVELOPMENT | 1 |
| | DICKSON&M COG 77 | COGNITION | 1 |
| | DICKSON&M PAP 79 | MISC: TECH REP, BULL | 1 |
| | | 3 | |
| HANDICAPPED | | | |
| | CHANDLER&G DP 74 | DEVELOPMENTAL PSYCH | 1 |
| | GREENSPAN PAP 75 | PAPER AT CONFERENCE | 1 |
| | GREENSPAN PAP 75 | PAPER AT CONFERENCE | 2 |
| | HOEMAN CD 72 | CHILD DEVELOPMENT | 1 |
| | | 4 | |
| BILINGUAL | | | |
| | GENESEE & CD 75 | CHILD DEVELOPMENT | 1 |
| | SAMUELS& JEDP 69 | J OF ED PSYCH | 1 |
| | | 2 | |
| TOTAL | | | |
| | | 80 | |

TYPE OF REFERENTS USED PAGE S - 1

| TYPE OF REFERENT | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|---|
| KRAUSS ABSTRACT FIGR | | | | | | |
| | DANKS | CP | 70 | COGNITIVE PSYCH | 1 | 1 |
| | DANKS | CP | 70 | COGNITIVE PSYCH | 1 | 2 |
| | DICKSON&M | COG | 77 | COGNITION | 1 | 1 |
| | DICKSON&M | PAP | 79 | MISC: TECH REP, BULL | 1 | 2 |
| | DICKSON&M | PAP | 79 | MISC: TECH REP, BULL | 1 | 3 |
| | FISHBEIN& | MPQ | 71 | MERRILL-PALMER QTLY | 1 | 1 |
| | FISHBEIN& | MPQ | 71 | MERRILL-PALMER QTLY | 2 | 1 |
| | GLUCKSBG | JECP | 66 | J OF EXPER CHILD PSY | 1 | 1 |
| | HEIDER | JPSP | 71 | J PERS & SOCIAL PSYC | 1 | 1 |
| | HEIDER | JPSP | 71 | J PERS & SOCIAL PSYC | 1 | 2 |
| | JOHNSTON& | BJP | 68 | BRITISH J OF PSYCH | 1 | 1 |
| | KRAUSS & G | CD | 69 | CHILD DEVELOPMENT | 1 | 1 |
| | KRAUSS & | MPQ | 68 | MERRILL-PALMER QTLY | 1 | 1 |
| | KRAUSS & | JPSP | 66 | J PERS & SOCIAL PSYC | 1 | 1 |
| | LONGHURST& | CD | 71 | CHILD DEVELOPMENT | 1 | 1 |
| | LONGHURST& | CD | 71 | CHILD DEVELOPMENT | 1 | 2 |
| | PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | PETERSON & | CD | 72 | CHILD DEVELOPMENT | 1 | 1 |
| | PICHE & | CD | 75 | CHILD DEVELOPMENT | 1 | 1 |
| | RUBIN | DP | 72 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | RUBIN | CD | 73 | CHILD DEVELOPMENT | 1 | 1 |
| | SAMUELS& | JEDP | 69 | J OF ED PSYCH | 1 | 1 |
| | SAMUELS& | JEDP | 69 | J OF ED PSYCH | 1 | 2 |
| | SHANTZ & W | CD | 72 | CHILD DEVELOPMENT | 1 | 4 |
| | SUSSWEIN & | CD | 75 | CHILD DEVELOPMENT | 1 | 1 |

25

| | | | | | | |
|---|---|---|---|---|---|---|
| PICTURE CHOOSING | | | | | | |
| | BALDWIN& | AERJ | 73 | AMER ED RESEARCH J | 1 | 1 |
| | BALDWIN,M& | CD | 71 | CHILD DEVELOPMENT | 1 | 1 |
| | COSGROVE & | DP | 77 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 | 2 |
| | DICKSON | DIS | 74 | DISSERTATION | 1 | 1 |
| | DICKSON & | CD | 79 | CHILD DEVELOPMENT | 1 | 1 |
| | DICKSON & | CD | 79 | CHILD DEVELOPMENT | 1 | 2 |
| | FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 1 | 1 |
| | FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 2 | 1 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 | 1 |
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 1 |
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 2 |
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 3 |
| | GRUSHCOW& | CD | 71 | CHILD DEVELOPMENT | 1 | 1 |
| | HOEMAN | CD | 72 | CHILD DEVELOPMENT | 1 | 1 |
| | HOEMAN | CD | 72 | CHILD DEVELOPMENT | 1 | 2 |
| | IRONSMITH& | CD | 78 | CHILD DEVELOPMENT | 1 | 1 |
| | IRONSMITH& | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MARATSOS | CD | 73 | CHILD DEVELOPMENT | 1 | 1 |
| | MEISSNER | JEP | 75 | J OF ED PSYCH | 1 | 1 |

TYPE OF REFERENTS USED 

| TYPE OF REFERENT | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|---|
| | MEISSNER | JEP | 75 | J OF ED PSYCH | 1 | 2 |
| | MEISSNER | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MEISSNER & | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MEISSNER & | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | PICHE & | CD | 75 | CHILD DEVELOPMENT | 1 | 2 |
| | TRIANDIS | HR | 60 | HUMAN RELATIONS | 1 | 1 |
| | TRIANDIS | HR | 60 | HUMAN RELATIONS | 1 | 2 |
| | TRIANDIS | HR | 60 | HUMAN RELATIONS | 1 | 3 |
| | WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 1 | 1 |
| | WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 2 | 1 |
| | WHITEHRST& | CD | 77 | CHILD DEVELOPMENT | 1 | 1 |
| | | | 33 | | | |
| MODEL BUILDING | | | | | | |
| | BALDWIN& | AERJ | 73 | AMER ED RESEARCH J | 1 | 2 |
| | CHAPANIS & | HF | 72 | HUMAN FACTORS | 1 | 2 |
| | DICKSON&M | PAP | 79 | MISC: TECH REP, BULL | 1 | 1 |
| | HOY | DP | 75 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | PICHE & | CD | 75 | CHILD DEVELOPMENT | 1 | 3 |
| | WOOD & | BJP | 75 | BRITISH J OF PSYCH | 1 | 1 |
| | | | 6 | | | |
| MAP DIRECTIONS | | | | | | |
| | BALDWIN& | AERJ | 73 | AMER ED RESEARCH J | 1 | 3 |
| | CHAPANIS & | HF | 72 | HUMAN FACTORS | 1 | 1 |
| | HIGGINS | GPM | 77 | GENETIC PSYCH MONOGR | 1 | 1 |
| | RATNER &R | REC | 63 | PSYCH RECORD | 1 | 1 |
| | | | 4 | | | |
| MESSAGE JUDGING | | | | | | |
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | BEARISON&L | CD | 77 | CHILD DEVELOPMENT | 1 | 1 |
| | MEISSNER | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | ROBINSON & | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ROBINSON & | DP | 76 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 3 | 1 |
| | | | 8 | | | |
| WORD PAIRS | | | | | | |
| | ASHER&ODEN | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 1 | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 2 | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 3 | 1 |
| | COHEN & KL | CD | 68 | CHILD DEVELOPMENT | 1 | 1 |
| | FEFFER&S | JPSP | 66 | J PERS & SOCIAL PSYC | 1 | 1 |
| | FEFFER&S | JPSP | 66 | J PERS & SOCIAL PSYC | 1 | 2 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 1 | 1 |

TYPE OF REFERENTS USED PAGE S - 3

| TYPE OF REFERENT | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 2 | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 3 | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 4 | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 5 | 1 |
| | | 12 | | | |
| GAME RULES | | | | | |
| | BEARISON&C | DP 75 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | FRY | CD 66 | CHILD DEVELOPMENT | 1 | 3 |
| | GENESEE & | CD 75 | CHILD DEVELOPMENT | 1 | 1 |
| | HOEMAN | CD 72 | CHILD DEVELOPMENT | 1 | 3 |
| | POZNER & | DP 74 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | | 5 | | | |
| SYMBOL DRAWING | | | | | |
| | BRILHART | JC 65 | J OF COMMUNICATION | 1 | 1 |
| | FRY | CD 66 | CHILD DEVELOPMENT | 1 | 2 |
| | SCHMIDT & | CD 70 | CHILD DEVELOPMENT | 1 | 1 |
| | | 3 | | | |
| EVENT RETELLING | | | | | |
| | MENIG-PETE | CD 75 | CHILD DEVELOPMENT | 1 | 1 |
| | MENIG-PETE | CD 75 | CHILD DEVELOPMENT | 1 | 2 |
| | | 2 | | | |
| COLOR CHIPS | | | | | |
| | JOHNSON&G | LS 68 | LANGUAGE & SPEECH | 1 | 1 |
| | KRAUSS& | JPSP 68 | J PERS & SOCIAL PSYC | 1 | 1 |
| | KRAUSS& | JPSP 68 | J PERS & SOCIAL PSYC | 1 | 2 |
| | KRAUSS& | JVLVB 67 | J OF VERBAL LEARNING | 1 | 1 |
| | KRAUSS& | JVLVB 67 | J OF VERBAL LEARNING | 1 | 2 |
| | | 5 | | | |
| PLACING IN AN ARRAY | | | | | |
| | CHANDLER&G | DP 74 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | CHANDLER&G | DP 74 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | FRIEDENBRG | CD 77 | CHILD DEVELOPMENT | 1 | 1 |
| | GREENSPAN | PAP 75 | PAPER AT CONFERENCE | 1 | 1 |
| | GREENSPAN | PAP 75 | PAPER AT CONFERENCE | 2 | 1 |
| | KARABENICK&C | CD 77 | CHILD DEVELOPMENT | 1 | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 2 | 2 |
| | SHANTZ & W | CD 72 | CHILD DEVELOPMENT | 1 | 1 |
| | SHANTZ & W | CD 72 | CHILD DEVELOPMENT | 1 | 2 |
| | SHANTZ & W | CD 72 | CHILD DEVELOPMENT | 1 | 3 |
| | | 11 | | | |
| TOTAL | | | | | |
| | | 114 | | | |

Appendix T

WHO SENT TO WHOM IN DESIGN PAGE T - 1

| WHO TO WHOM | AUTHORS PUB YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|
| SUBJECT TO SUBJECT | | | | |
| | BALDWIN& AERJ 73 | AMER ED RESEARCH J | 1 | 1 |
| | BALDWIN& AERJ 73 | AMER ED RESEARCH J | 1 | 2 |
| | BALDWIN& AERJ 73 | AMER ED RESEARCH J | 1 | 3 |
| | BALDWIN,M& CD 71 | CHILD DEVELOPMENT | 1 | 1 |
| | BRILHART JC 65 | J OF COMMUNICATION | 1 | 1 |
| | CHAPANIS & HF 72 | HUMAN FACTORS | 1 | 1 |
| | CHAPANIS & HF 72 | HUMAN FACTORS | 1 | 2 |
| | COHEN & KL CD 68 | CHILD DEVELOPMENT | 1 | 1 |
| | DICKSON DIS 74 | DISSERTATION | 1 | 1 |
| | DICKSON&M PAP 79 | MISC: TECH REP, BULL | 1 | 1 |
| | FEFFER&S JPSP 66 | J PERS & SOCIAL PSYC | 1 | 1 |
| | FEFFER&S JPSP 66 | J PERS & SOCIAL PSYC | 1 | 2 |
| | FISHBEIN& MPQ 71 | MERRILL-PALMER QTLY | 1 | 1 |
| | FISHBEIN& MPQ 71 | MERRILL-PALMER QTLY | 2 | 1 |
| | FORD & O JECP 75 | J OF EXPER CHILD PSY | 1 | 1 |
| | FORD & O JECP 75 | J OF EXPER CHILD PSY | 2 | 1 |
| | GENESEE & CD 75 | CHILD DEVELOPMENT | 1 | 1 |
| | GLUCKSBG JECP 66 | J OF EXPER CHILD PSY | 1 | 1 |
| | HIGGINS GPM 77 | GENETIC PSYCH MONOGR | 1 | 1 |
| | HOEMAN CD 72 | CHILD DEVELOPMENT | 1 | 1 |
| | HOEMAN CD 72 | CHILD DEVELOPMENT | 1 | 2 |
| | HOEMAN CD 72 | CHILD DEVELOPMENT | 1 | 3 |
| | HOY DP 75 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | JOHNSTON& BJP 68 | BRITISH J OF PSYCH | 1 | 1 |
| | KARABENICK&CD 77 | CHILD DEVELOPMENT | 1 | 1 |
| | KRAUSS & G CD 69 | CHILD DEVELOPMENT | 1 | 1 |
| | KRAUSS & JPSP 66 | J PERS & SOCIAL PSYC | 1 | 1 |
| | KRAUSS& JVLVB 67 | J OF VERBAL LEARNING | 1 | 2 |
| | MEISSNER JEP 75 | J OF ED PSYCH | 1 | 2 |
| | PICHE & CD 75 | CHILD DEVELOPMENT | 1 | 1 |
| | PICHE & CD 75 | CHILD DEVELOPMENT | 1 | 2 |
| | PICHE & CD 75 | CHILD DEVELOPMENT | 1 | 3 |
| | POZNER & DP 74 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | SHANTZ & W CD 72 | CHILD DEVELOPMENT | 1 | 4 |
| | TRIANDIS HR 60 | HUMAN RELATIONS | 1 | 1 |
| | TRIANDIS HR 60 | HUMAN RELATIONS | 1 | 2 |
| | TRIANDIS HR 60 | HUMAN RELATIONS | 1 | 3 |
| | | 37 | | |
| SUBJECT TO TESTER | | | | |
| | ASHER DP 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ASHER DP 76 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ASHER &P JEDP 75 | J OF ED PSYCH | 1 | 1 |
| | ASHER &P JEDP 75 | J OF ED PSYCH | 2 | 1 |
| | ASHER &P JEDP 75 | J OF ED PSYCH | 3 | 1 |
| | BEARISON&C DP 75 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | CHANDLER&G DP 74 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | CHANDLER&G DP 74 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | DICKSON&M PAP 79 | MISC: TECH REP, BULL | 1 | 3 |

WHO SENT TO WHOM IN DESIGN 

| WHO TO WHOM | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|---|
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 | 1 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 | 2 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 | 3 |
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 1 |
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 2 |
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 3 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 1 | 1 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 2 | 1 |
| | KRAUSS& | JVLVB | 67 | J OF VERBAL LEARNING | 1 | 1 |
| | MARATSOS | CD | 73 | CHILD DEVELOPMENT | 1 | 1 |
| | MEISSNER & | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MEISSNER & | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | MENIG-PETE | CD | 75 | CHILD DEVELOPMENT | 1 | 1 |
| | MENIG-PETE | CD | 75 | CHILD DEVELOPMENT | 1 | 2 |
| | PETERSON & | CD | 72 | CHILD DEVELOPMENT | 1 | 1 |
| | RATNER &R | REC | 63 | PSYCH RECORD | 1 | 1 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 4 | 1 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 5 | 1 |
| | RUBIN | DP | 72 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | RUBIN | CD | 73 | CHILD DEVELOPMENT | 1 | 1 |
| | SAMUELS& | JEDP | 69 | J OF ED PSYCH | 1 | 2 |
| | SHANTZ & W | CD | 72 | CHILD DEVELOPMENT | 1 | 1 |
| | SHANTZ & W | CD | 72 | CHILD DEVELOPMENT | 1 | 2 |
| | SHANTZ & W | CD | 72 | CHILD DEVELOPMENT | 1 | 3 |
| | SUSSWEIN & | CD | 75 | CHILD DEVELOPMENT | 1 | 1 |
| | WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 1 | 1 |
| | WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 2 | 1 |
| | WHITEHRST& | CD | 77 | CHILD DEVELOPMENT | 1 | 1 |
| | | | 37 | | | |
| TESTER TO SUBJECT | | | | | | |
| | BEARISON&L | CD | 77 | CHILD DEVELOPMENT | 1 | 1 |
| | COSGROVE & | DP | 77 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 | 2 |
| | DICKSON&M | COG | 77 | COGNITION | 1 | 1 |
| | DICKSON&M | PAP | 79 | MISC: TECH REP, BULL | 1 | 2 |
| | FRIEDENBRG | CD | 77 | CHILD DEVELOPMENT | 1 | 1 |
| | GRUSHCOW& | CD | 71 | CHILD DEVELOPMENT | 1 | 1 |
| | IRONSMITH& | CD | 78 | CHILD DEVELOPMENT | 1 | 1 |
| | IRONSMITH& | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MEISSNER | JEP | 75 | J OF ED PSYCH | 1 | 1 |
| | PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | SAMUELS& | JEDP | 69 | J OF ED PSYCH | 1 | 1 |
| | | | 14 | | | |
| SUBJECTS THRU TESTER | | | | | | |
| | ASHER&ODEN | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | DANKS | CP | 70 | COGNITIVE PSYCH | 1 | 1 |

WHO SENT TO WHOM IN DESIGN PAGE T - 3

| WHO TO WHOM | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|---|
| | DANKS | CP | 70 | COGNITIVE PSYCH | 1 | 2 |
| | HEIDER | JPSP | 71 | J PERS & SOCIAL PSYC | 1 | 1 |
| | HEIDER | JPSP | 71 | J PERS & SOCIAL PSYC | 1 | 2 |
| | JOHNSON&G | LS | 68 | LANGUAGE & SPEECH | 1 | 1 |
| | KRAUSS & | MPQ | 68 | MERRILL-PALMER QTLY | 1 | 1 |
| | KRAUSS& | JPSP | 68 | J PERS & SOCIAL PSYC | 1 | 1 |
| | KRAUSS& | JPSP | 68 | J PERS & SOCIAL PSYC | 1 | 2 |
| | MEISSNER | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MEISSNER | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 1 | 1 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 2 | 1 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 3 | 1 |
| | | | 14 | | | |
| PARENT TO CHILD | | | | | | |
| | DICKSON & | CD | 79 | CHILD DEVELOPMENT | 1 | 1 |
| | DICKSON & | CD | 79 | CHILD DEVELOPMENT | 1 | 2 |
| | SCHMIDT & | CD | 70 | CHILD DEVELOPMENT | 1 | 1 |
| | WOOD & | BJP | 75 | BRITISH J OF PSYCH | 1 | 1 |
| | | | 4 | | | |
| | 9 | | | | | |
| | LONGHURST& | CD | 71 | CHILD DEVELOPMENT | 1 | 1 |
| | LONGHURST& | CD | 71 | CHILD DEVELOPMENT | 1 | 2 |
| | ROBINSON & | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ROBINSON & | DP | 76 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 2 | 2 |
| | ROBINSON & | DP | 77 | DEVELOPMENTAL PSYCH | 3 | 1 |
| | | | 8 | | | |
| TOTAL | | | 114 | | | |

Appendix U

CHANNEL USED FOR COMMUNICATION PAGE U - 1

| COMM CHANNEL | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|---|
| SPOKEN | | | | | | |
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ASHER&ODEN | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 1 | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 2 | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 3 | 1 |
| | BALDWIN& | AERJ | 73 | AMER ED RESEARCH J | 1 | 1 |
| | BALDWIN& | AERJ | 73 | AMER ED RESEARCH J | 1 | 2 |
| | BALDWIN& | AERJ | 73 | AMER ED RESEARCH J | 1 | 3 |
| | BALDWIN,M& | CD | 71 | CHILD DEVELOPMENT | 1 | 1 |
| | BEARISON&C | DP | 75 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | BEARISON&L | CD | 77 | CHILD DEVELOPMENT | 1 | 1 |
| | BRILHART | JC | 65 | J OF COMMUNICATION | 1 | 1 |
| | CHANDLER&G | DP | 74 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | CHANDLER&G | DP | 74 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | COHEN & KL | CD | 68 | CHILD DEVELOPMENT | 1 | 1 |
| | COSGROVE & | DP | 77 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 | 2 |
| | DICKSON | DIS | 74 | DISSERTATION | 1 | 1 |
| | DICKSON & | CD | 79 | CHILD DEVELOPMENT | 1 | 1 |
| | DICKSON & | CD | 79 | CHILD DEVELOPMENT | 1 | 2 |
| | DICKSON&M | PAP | 79 | MISC: TECH REP, BULL | 1 | 1 |
| | DICKSON&M | PAP | 79 | MISC: TECH REP, BULL | 1 | 2 |
| | FEFFER&S | JPSP | 66 | J PERS & SOCIAL PSYC | 1 | 1 |
| | FEFFER&S | JPSP | 66 | J PERS & SOCIAL PSYC | 1 | 2 |
| | FISHBEIN& | MPQ | 71 | MERRILL-PALMER QTLY | 1 | 1 |
| | FISHBEIN& | MPQ | 71 | MERRILL-PALMER QTLY | 2 | 1 |
| | FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 1 | 1 |
| | FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 2 | 1 |
| | FRIEDENBRG | CD | 77 | CHILD DEVELOPMENT | 1 | 1 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 | 1 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 | 2 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 | 3 |
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 1 |
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 2 |
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 3 |
| | GENESEE & | CD | 75 | CHILD DEVELOPMENT | 1 | 1 |
| | GLUCKSBG | JECP | 66 | J OF EXPER CHILD PSY | 1 | 1 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 1 | 1 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 2 | 1 |
| | GRUSHCOW& | CD | 71 | CHILD DEVELOPMENT | 1 | 1 |
| | HEIDER | JPSP | 71 | J PERS & SOCIAL PSYC | 1 | 1 |
| | HEIDER | JPSP | 71 | J PERS & SOCIAL PSYC | 1 | 2 |
| | HOY | DP | 75 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | IRONSMITH& | CD | 78 | CHILD DEVELOPMENT | 1 | 1 |
| | IRONSMITH& | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | JOHNSON&G | LS | 68 | LANGUAGE & SPEECH | 1 | 1 |
| | JOHNSTON& | BJP | 68 | BRITISH J OF PSYCH | 1 | 1 |

CHANNEL USED FOR COMMUNICATION PAGE U - 2

| COMM CHANNEL | AUTHORS PUB YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|
| | KARABENICK&CD 77 | CHILD DEVELOPMENT | 1 | 1 |
| | KRAUSS & G CD 69 | CHILD DEVELOPMENT | 1 | 1 |
| | KRAUSS & MPQ 68 | MERRILL-PALMER QTLY | 1 | 1 |
| | KRAUSS& JPSP 68 | J PERS & SOCIAL PSYC | 1 | 1 |
| | KRAUSS & JPSP 66 | J PERS & SOCIAL PSYC | 1 | 1 |
| | KRAUSS& JVLVB 67 | J OF VERBAL LEARNING | 1 | 1 |
| | KRAUSS& JVLVB 67 | J OF VERBAL LEARNING | 1 | 2 |
| | MARATSOS CD 73 | CHILD DEVELOPMENT | 1 | 1 |
| | MEISSNER JEP 75 | J OF ED PSYCH | 1 | 1 |
| | MEISSNER JEP 75 | J OF ED PSYCH | 1 | 2 |
| | MEISSNER DP 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MEISSNER DP 78 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | MEISSNER & DP 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MEISSNER & DP 76 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | MENIG-PETE CD 75 | CHILD DEVELOPMENT | 1 | 1 |
| | MENIG-PETE CD 75 | CHILD DEVELOPMENT | 1 | 2 |
| | PATTERSON& DP 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | PATTERSON& DP 78 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | PETERSON & CD 72 | CHILD DEVELOPMENT | 1 | 1 |
| | PICHE & CD 75 | CHILD DEVELOPMENT | 1 | 1 |
| | PICHE & CD 75 | CHILD DEVELOPMENT | 1 | 2 |
| | PICHE & CD 75 | CHILD DEVELOPMENT | 1 | 3 |
| | POZNER & DP 74 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | RATNER &R REC 63 | PSYCH RECORD | 1 | 1 |
| | ROBINSON & DP 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ROBINSON & DP 76 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ROBINSON & DP 77 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ROBINSON & DP 77 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ROBINSON & DP 77 | DEVELOPMENTAL PSYCH | 2 | 2 |
| | ROBINSON & DP 77 | DEVELOPMENTAL PSYCH | 3 | 1 |
| | RUBIN DP 72 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | RUBIN CD 73 | CHILD DEVELOPMENT | 1 | 1 |
| | SAMUELS& JEDP 69 | J OF ED PSYCH | 1 | 1 |
| | SAMUELS& JEDP 69 | J OF ED PSYCH | 1 | 2 |
| | SHANTZ & W CD 72 | CHILD DEVELOPMENT | 1 | 1 |
| | SHANTZ & W CD 72 | CHILD DEVELOPMENT | 1 | 2 |
| | SHANTZ & W CD 72 | CHILD DEVELOPMENT | 1 | 3 |
| | SHANTZ & W CD 72 | CHILD DEVELOPMENT | 1 | 4 |
| | SUSSWEIN & CD 75 | CHILD DEVELOPMENT | 1 | 1 |
| | WHITEHURST CD 76 | CHILD DEVELOPMENT | 1 | 1 |
| | WHITEHURST CD 76 | CHILD DEVELOPMENT | 2 | 1 |
| | WHITEHRST& CD 77 | CHILD DEVELOPMENT | 1 | 1 |
| | WOOD & BJP 75 | BRITISH J OF PSYCH | 1 | 1 |
| | 92 | | | |
| WRITTEN | | | | |
| | DANKS CP 70 | COGNITIVE PSYCH | 1 | 1 |
| | DANKS CP 70 | COGNITIVE PSYCH | 1 | 2 |
| | DICKSON&M COG 77 | COGNITION | 1 | 1 |
| | DICKSON&M PAP 79 | MISC: TECH REP, BULL | 1 | 3 |

CHANNEL USED FOR COMMUNICATION PAGE U - 3

| COMM CHANNEL | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|
| | KRAUSS& | JPSP 68 | J PERS & SOCIAL PSYC | 1 | 2 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 1 | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 2 | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 3 | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 4 | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 5 | 1 |
| | | 10 | | | |
| NONVERBAL | | | | | |
| | SCHMIDT & | CD 70 | CHILD DEVELOPMENT | 1 | 1 |
| | | 1 | | | |
| SIGN LANGUAGE | | | | | |
| | HOEMAN | CD 72 | CHILD DEVELOPMENT | 1 | 1 |
| | HOEMAN | CD 72 | CHILD DEVELOPMENT | 1 | 2 |
| | HOEMAN | CD 72 | CHILD DEVELOPMENT | 1 | 3 |
| | | 3 | | | |
| SPECIAL NOTE | | | | | |
| | CHAPANIS & | HF 72 | HUMAN FACTORS | 1 | 1 |
| | CHAPANIS & | HF 72 | HUMAN FACTORS | 1 | 2 |
| | HIGGINS | GPM 77 | GENETIC PSYCH MONOGR | 1 | 1 |
| | LONGHURST& | CD 71 | CHILD DEVELOPMENT | 1 | 1 |
| | LONGHURST& | CD 71 | CHILD DEVELOPMENT | 1 | 2 |
| | TRIANDIS | HR 60 | HUMAN RELATIONS | 1 | 1 |
| | TRIANDIS | HR 60 | HUMAN RELATIONS | 1 | 2 |
| | TRIANDIS | HR 60 | HUMAN RELATIONS | 1 | 3 |
| | | 8 | | | |
| TOTAL | | | | | |
| | | 114 | | | |

Appendix V

CONSTRAINTS ON COMMUNICATION PAGE V - 1

| CONSTRAINTS ON COMM | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|
| NOT APPLICABLE | | | | | |
| | LONGHURST& | CD 71 | CHILD DEVELOPMENT | 1 | 1 |
| | LONGHURST& | CD 71 | CHILD DEVELOPMENT | 1 | 2 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 2 | 2 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 3 | 1 |
| | | 8 | | | |
| NO RESTRICTIONS | | | | | |
| | DICKSON | DIS 74 | DISSERTATION | 1 | 1 |
| | DICKSON & | CD 79 | CHILD DEVELOPMENT | 1 | 1 |
| | DICKSON & | CD 79 | CHILD DEVELOPMENT | 1 | 2 |
| | SCHMIDT & | CD 70 | CHILD DEVELOPMENT | 1 | 1 |
| | WOOD & | BJP 75 | BRITISH J OF PSYCH | 1 | 1 |
| | | 5 | | | |
| VISUAL BARRIER | | | | | |
| | BALDWIN& | AERJ 73 | AMER ED RESEARCH J | 1 | 1 |
| | BALDWIN& | AERJ 73 | AMER ED RESEARCH J | 1 | 2 |
| | BALDWIN& | AERJ 73 | AMER ED RESEARCH J | 1 | 3 |
| | BALDWIN,M& | CD 71 | CHILD DEVELOPMENT | 1 | 1 |
| | DICKSON&M | PAP 79 | MISC: TECH REP, BULL | 1 | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 1 | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 2 | 1 |
| | GLUCKSBG | JECP 66 | J OF EXPER CHILD PSY | 1 | 1 |
| | JOHNSTON& | BJP 68 | BRITISH J OF PSYCH | 1 | 1 |
| | KRAUSS & G | CD 69 | CHILD DEVELOPMENT | 1 | 1 |
| | KRAUSS& | JVLVB 67 | J OF VERBAL LEARNING | 1 | 2 |
| | MEISSNER | JEP 75 | J OF ED PSYCH | 1 | 2 |
| | POZNER & | DP 74 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | SHANTZ & W | CD 72 | CHILD DEVELOPMENT | 1 | 4 |
| | | 14 | | | |
| ONE WORD: S TO S | | | | | |
| | COHEN & KL | CD 68 | CHILD DEVELOPMENT | 1 | 1 |
| | FEFFER&S | JPSP 66 | J PERS & SOCIAL PSYC | 1 | 1 |
| | FEFFER&S | JPSP 66 | J PERS & SOCIAL PSYC | 1 | 2 |
| | TRIANDIS | HR 60 | HUMAN RELATIONS | 1 | 1 |
| | TRIANDIS | HR 60 | HUMAN RELATIONS | 1 | 2 |
| | TRIANDIS | HR 60 | HUMAN RELATIONS | 1 | 3 |
| | | 6 | | | |
| NO OR FEW QUESTIONS | | | | | |
| | BRILHART | JC 65 | J OF COMMUNICATION | 1 | 1 |
| | FORD & O | JECP 75 | J OF EXPER CHILD PSY | 1 | 1 |
| | FORD & O | JECP 75 | J OF EXPER CHILD PSY | 2 | 1 |
| | GENESEE & | CD 75 | CHILD DEVELOPMENT | 1 | 1 |

CONSTRAINTS ON COMMUNICATION PAGE V - 2

| CONSTRAINTS ON COMM | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|---|
| | HOEMAN | CD | 72 | CHILD DEVELOPMENT | 1 | 1 |
| | HOEMAN | CD | 72 | CHILD DEVELOPMENT | 1 | 2 |
| | HOEMAN | CD | 72 | CHILD DEVELOPMENT | 1 | 3 |
| | PICHE & | CD | 75 | CHILD DEVELOPMENT | 1 | 1 |
| | PICHE & | CD | 75 | CHILD DEVELOPMENT | 1 | 2 |
| | PICHE & | CD | 75 | CHILD DEVELOPMENT | 1 | 3 |
| | | | | 10 | | |
| VARIED CONSTRAINTS | | | | | | |
| | CHAPANIS & | HF | 72 | HUMAN FACTORS | 1 | 1 |
| | CHAPANIS & | HF | 72 | HUMAN FACTORS | 1 | 2 |
| | HIGGINS | GPM | 77 | GENETIC PSYCH MONOGR | 1 | 1 |
| | HOY | DP | 75 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | KARABENICK& | CD | 77 | CHILD DEVELOPMENT | 1 | 1 |
| | KRAUSS & | JPSP | 66 | J PERS & SOCIAL PSYC | 1 | 1 |
| | | | | 6 | | |
| ONE WORD: S TO T | | | | | | |
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 1 | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 2 | 1 |
| | ASHER &P | JEDP | 75 | J OF ED PSYCH | 3 | 1 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 4 | 1 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 5 | 1 |
| | | | | 7 | | |
| ONE WORD: S THRU T | | | | | | |
| | ASHER&ODEN | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | DANKS | CP | 70 | COGNITIVE PSYCH | 1 | 1 |
| | DANKS | CP | 70 | COGNITIVE PSYCH | 1 | 2 |
| | KRAUSS& | JPSP | 68 | J PERS & SOCIAL PSYC | 1 | 1 |
| | KRAUSS& | JPSP | 68 | J PERS & SOCIAL PSYC | 1 | 2 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 1 | 1 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 2 | 1 |
| | ROSENBRG& | REV | 66 | PSYCH REVIEW | 3 | 1 |
| | | | | 8 | | |
| NOT APPLIC: S TO T | | | | | | |
| | BEARISON&C | DP | 75 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | CHANDLER&G | DP | 74 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | CHANDLER&G | DP | 74 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | DICKSON&M | COG | 77 | COGNITION | 1 | 1 |
| | DICKSON&M | PAP | 79 | MISC: TECH REP, BULL | 1 | 2 |
| | DICKSON&M | PAP | 79 | MISC: TECH REP, BULL | 1 | 3 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 | 1 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 | 2 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 | 3 |
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 1 |
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 2 |

CONSTRAINTS ON COMMUNICATION PAGE V - 3

| CONSTRAINTS ON COMM | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|---|
| | GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 3 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 1 | 1 |
| | GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 2 | 1 |
| | KRAUSS& | JVLVB | 67 | J OF VERBAL LEARNING | 1 | 1 |
| | MARATSOS | CD | 73 | CHILD DEVELOPMENT | 1 | 1 |
| | MEISSNER & | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MEISSNER & | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | MENIG-PETE | CD | 75 | CHILD DEVELOPMENT | 1 | 1 |
| | MENIG-PETE | CD | 75 | CHILD DEVELOPMENT | 1 | 2 |
| | PETERSON & | CD | 72 | CHILD DEVELOPMENT | 1 | 1 |
| | RATNER &R | REC | 63 | PSYCH RECORD | 1 | 1 |
| | RUBIN | DP | 72 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | RUBIN | CD | 73 | CHILD DEVELOPMENT | 1 | 1 |
| | SAMUELS& | JEDP | 69 | J OF ED PSYCH | 1 | 2 |
| | SHANTZ & W | CD | 72 | CHILD DEVELOPMENT | 1 | 1 |
| | SHANTZ & W | CD | 72 | CHILD DEVELOPMENT | 1 | 2 |
| | SHANTZ & W | CD | 72 | CHILD DEVELOPMENT | 1 | 3 |
| | SUSSWEIN & | CD | 75 | CHILD DEVELOPMENT | 1 | 1 |
| | WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 1 | 1 |
| | WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 2 | 1 |
| | WHITEHRST& | CD | 77 | CHILD DEVELOPMENT | 1 | 1 |
| | | | | 32 | | |
| NOT APPLIC: T TO S | | | | | | |
| | BEARISON&L | CD | 77 | CHILD DEVELOPMENT | 1 | 1 |
| | COSGROVE & | DP | 77 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 | 2 |
| | FRIEDENBRG | CD | 77 | CHILD DEVELOPMENT | 1 | 1 |
| | GRUSHCOW& | CD | 71 | CHILD DEVELOPMENT | 1 | 1 |
| | IRONSMITH& | CD | 78 | CHILD DEVELOPMENT | 1 | 1 |
| | IRONSMITH& | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MEISSNER | JEP | 75 | J OF ED PSYCH | 1 | 1 |
| | PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | SAMUELS& | JEDP | 69 | J OF ED PSYCH | 1 | 1 |
| | | | | 12 | | |
| NOT APPLIC: S THRU T | | | | | | |
| | HEIDER | JPSP | 71 | J PERS & SOCIAL PSYC | 1 | 1 |
| | HEIDER | JPSP | 71 | J PERS & SOCIAL PSYC | 1 | 2 |
| | JOHNSON&G | LS | 68 | LANGUAGE & SPEECH | 1 | 1 |
| | KRAUSS & | MPQ | 68 | MERRILL-PALMER QTLY | 1 | 1 |
| | MEISSNER | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MEISSNER | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | | | | 6 | | |
| TOTAL | | | | | | |
| | | | | 114 | | |

Appendix W

PRACTICE TRIALS WERE GIVEN 

| PRACTICE GIVEN | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|
| NO PRACTICE TRIALS | | | | | |
| | ASHER | DP 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | BALDWIN& | AERJ 73 | AMER ED RESEARCH J | 1 | 1 |
| | BALDWIN& | AERJ 73 | AMER ED RESEARCH J | 1 | 2 |
| | BALDWIN& | AERJ 73 | AMER ED RESEARCH J | 1 | 3 |
| | BALDWIN,M& | CD 71 | CHILD DEVELOPMENT | 1 | 1 |
| | BEARISON&C | DP 75 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | BEARISON&L | CD 77 | CHILD DEVELOPMENT | 1 | 1 |
| | BRILHART | JC 65 | J OF COMMUNICATION | 1 | 1 |
| | CHANDLER&G | DP 74 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | CHAPANIS & | HF 72 | HUMAN FACTORS | 1 | 1 |
| | CHAPANIS & | HF 72 | HUMAN FACTORS | 1 | 2 |
| | COHEN & KL | CD 68 | CHILD DEVELOPMENT | 1 | 1 |
| | DANKS | CP 70 | COGNITIVE PSYCH | 1 | 1 |
| | DANKS | CP 70 | COGNITIVE PSYCH | 1 | 2 |
| | DICKSON&M | COG 77 | COGNITION | 1 | 1 |
| | DICKSON&M | PAP 79 | MISC: TECH REP, BULL | 1 | 1 |
| | DICKSON&M | PAP 79 | MISC: TECH REP, BULL | 1 | 2 |
| | DICKSON&M | PAP 79 | MISC: TECH REP, BULL | 1 | 3 |
| | FEFFER&S | JPSP 66 | J PERS & SOCIAL PSYC | 1 | 1 |
| | FEFFER&S | JPSP 66 | J PERS & SOCIAL PSYC | 1 | 2 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 1 | 1 |
| | FISHBEIN& | MPQ 71 | MERRILL-PALMER QTLY | 2 | 1 |
| | FORD & O | JECP 75 | J OF EXPER CHILD PSY | 1 | 1 |
| | FORD & O | JECP 75 | J OF EXPER CHILD PSY | 2 | 1 |
| | FRIEDENBRG | CD 77 | CHILD DEVELOPMENT | 1 | 1 |
| | GREENSPAN | PAP 75 | PAPER AT CONFERENCE | 1 | 1 |
| | GREENSPAN | PAP 75 | PAPER AT CONFERENCE | 2 | 1 |
| | HIGGINS | GPM 77 | GENETIC PSYCH MONOGR | 1 | 1 |
| | HOEMAN | CD 72 | CHILD DEVELOPMENT | 1 | 1 |
| | HOEMAN | CD 72 | CHILD DEVELOPMENT | 1 | 2 |
| | HOY | DP 75 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | IRONSMITH& | DP 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | JOHNSON&G | LS 68 | LANGUAGE & SPEECH | 1 | 1 |
| | KARABENICK& | CD 77 | CHILD DEVELOPMENT | 1 | 1 |
| | KRAUSS& | JPSP 68 | J PERS & SOCIAL PSYC | 1 | 1 |
| | KRAUSS& | JPSP 68 | J PERS & SOCIAL PSYC | 1 | 2 |
| | KRAUSS & | JPSP 66 | J PERS & SOCIAL PSYC | 1 | 1 |
| | KRAUSS& | JVLVB 67 | J OF VERBAL LEARNING | 1 | 1 |
| | KRAUSS& | JVLVB 67 | J OF VERBAL LEARNING | 1 | 2 |
| | LONGHURST& | CD 71 | CHILD DEVELOPMENT | 1 | 1 |
| | LONGHURST& | CD 71 | CHILD DEVELOPMENT | 1 | 2 |
| | MARATSOS | CD 73 | CHILD DEVELOPMENT | 1 | 1 |
| | MEISSNER | JEP 75 | J OF ED PSYCH | 1 | 1 |
| | MEISSNER | JEP 75 | J OF ED PSYCH | 1 | 2 |
| | MEISSNER | DP 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MEISSNER | DP 78 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | MEISSNER & | DP 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MEISSNER & | DP 76 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | MENIG-PETE | CD 75 | CHILD DEVELOPMENT | 1 | 1 |

PRACTICE TRIALS WERE GIVEN 

| PRACTICE GIVEN | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|
| | MENIG-PETE | CD 75 | CHILD DEVELOPMENT | 1 | 2 |
| | PATTERSON& | DP 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | PATTERSON& | DP 78 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | PICHE & | CD 75 | CHILD DEVELOPMENT | 1 | 1 |
| | PICHE & | CD 75 | CHILD DEVELOPMENT | 1 | 3 |
| | RATNER &R | REC 63 | PSYCH RECORD | 1 | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ROBINSON & | DP 76 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 2 | 2 |
| | ROBINSON & | DP 77 | DEVELOPMENTAL PSYCH | 3 | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 1 | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 2 | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 3 | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 4 | 1 |
| | ROSENBRG& | REV 66 | PSYCH REVIEW | 5 | 1 |
| | RUBIN | DP 72 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | RUBIN | CD 73 | CHILD DEVELOPMENT | 1 | 1 |
| | SCHMIDT & | CD 70 | CHILD DEVELOPMENT | 1 | 1 |
| | TRIANDIS | HR 60 | HUMAN RELATIONS | 1 | 1 |
| | TRIANDIS | HR 60 | HUMAN RELATIONS | 1 | 2 |
| | TRIANDIS | HR 60 | HUMAN RELATIONS | 1 | 3 |
| | WHITEHURST | CD 76 | CHILD DEVELOPMENT | 1 | 1 |
| | WHITEHURST | CD 76 | CHILD DEVELOPMENT | 2 | 1 |
| | WHITEHRST& | CD 77 | CHILD DEVELOPMENT | 1 | 1 |
| | WOOD & | BJP 75 | BRITISH J OF PSYCH | 1 | 1 |

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| PRACTICE GIVEN | | | | | |
|---|---|---|---|---|---|
| | ASHER | DP 76 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ASHER&ODEN | DP 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ASHER &P | JEDP 75 | J OF ED PSYCH | 1 | 1 |
| | ASHER &P | JEDP 75 | J OF ED PSYCH | 2 | 1 |
| | ASHER &P | JEDP 75 | J OF ED PSYCH | 3 | 1 |
| | CHANDLER&G | DP 74 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | COSGROVE & | DP 77 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | COSGROVE & | CD 78 | CHILD DEVELOPMENT | 1 | 1 |
| | COSGROVE & | CD 78 | CHILD DEVELOPMENT | 1 | 2 |
| | DICKSON | DIS 74 | DISSERTATION | 1 | 1 |
| | DICKSON & | CD 79 | CHILD DEVELOPMENT | 1 | 1 |
| | DICKSON & | CD 79 | CHILD DEVELOPMENT | 1 | 2 |
| | FRY | CD 66 | CHILD DEVELOPMENT | 1 | 1 |
| | FRY | CD 66 | CHILD DEVELOPMENT | 1 | 2 |
| | FRY | CD 66 | CHILD DEVELOPMENT | 1 | 3 |
| | GARMIZA&A | MPQ 76 | MERRILL-PALMER QTLY | 1 | 1 |
| | GARMIZA&A | MPQ 76 | MERRILL-PALMER QTLY | 1 | 2 |
| | GARMIZA&A | MPQ 76 | MERRILL-PALMER QTLY | 1 | 3 |
| | GENESEE & | CD 75 | CHILD DEVELOPMENT | 1 | 1 |
| | GLUCKSBG | JECP 66 | J OF EXPER CHILD PSY | 1 | 1 |

PRACTICE TRIALS WERE GIVEN PAGE W - 3

| PRACTICE GIVEN | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|
| | GRUSHCOW& | CD 71 | CHILD DEVELOPMENT | 1 | 1 |
| | HEIDER | JPSP 71 | J PERS & SOCIAL PSYC | 1 | 1 |
| | HEIDER | JPSP 71 | J PERS & SOCIAL PSYC | 1 | 2 |
| | HOEMAN | CD 72 | CHILD DEVELOPMENT | 1 | 3 |
| | IRONSMITH& | CD 78 | CHILD DEVELOPMENT | 1 | 1 |
| | JOHNSTON& | BJP 68 | BRITISH J OF PSYCH | 1 | 1 |
| | KRAUSS & G | CD 69 | CHILD DEVELOPMENT | 1 | 1 |
| | KRAUSS & | MPQ 68 | MERRILL-PALMER QTLY | 1 | 1 |
| | PETERSON & | CD 72 | CHILD DEVELOPMENT | 1 | 1 |
| | PICHE & | CD 75 | CHILD DEVELOPMENT | 1 | 2 |
| | POZNER & | DP 74 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | SAMUELS& | JEDP 69 | J OF ED PSYCH | 1 | 1 |
| | SAMUELS& | JEDP 69 | J OF ED PSYCH | 1 | 2 |
| | SHANTZ & W | CD 72 | CHILD DEVELOPMENT | 1 | 1 |
| | SHANTZ & W | CD 72 | CHILD DEVELOPMENT | 1 | 2 |
| | SHANTZ & W | CD 72 | CHILD DEVELOPMENT | 1 | 3 |
| | SHANTZ & W | CD 72 | CHILD DEVELOPMENT | 1 | 4 |
| | SUSSWEIN & | CD 75 | CHILD DEVELOPMENT | 1 | 1 |

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TOTAL

114

Appendix X

TRAINING WAS GIVEN



TRAINING GIVEN

NO TRAINING

| AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|
| ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| ASHER | DP | 76 | DEVELOPMENTAL PSYCH | 2 | 1 |
| ASHER&ODEN | DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| ASHER &P | JEDP | 75 | J OF ED PSYCH | 1 | 1 |
| ASHER &P | JEDP | 75 | J OF ED PSYCH | 2 | 1 |
| ASHER &P | JEDP | 75 | J OF ED PSYCH | 3 | 1 |
| BALDWIN& | AERJ | 73 | AMER ED RESEARCH J | 1 | 1 |
| BALDWIN& | AERJ | 73 | AMER ED RESEARCH J | 1 | 2 |
| BALDWIN& | AERJ | 73 | AMER ED RESEARCH J | 1 | 3 |
| BALDWIN,M& | CD | 71 | CHILD DEVELOPMENT | 1 | 1 |
| BEARISON&C | DP | 75 | DEVELOPMENTAL PSYCH | 1 | 1 |
| BEARISON&L | CD | 77 | CHILD DEVELOPMENT | 1 | 1 |
| BRILHART | JC | 65 | J OF COMMUNICATION | 1 | 1 |
| CHAPANIS & | HF | 72 | HUMAN FACTORS | 1 | 1 |
| CHAPANIS & | HF | 72 | HUMAN FACTORS | 1 | 2 |
| COHEN & KL | CD | 68 | CHILD DEVELOPMENT | 1 | 1 |
| DANKS | CP | 70 | COGNITIVE PSYCH | 1 | 1 |
| DANKS | CP | 70 | COGNITIVE PSYCH | 1 | 2 |
| DICKSON & | CD | 79 | CHILD DEVELOPMENT | 1 | 1 |
| DICKSON & | CD | 79 | CHILD DEVELOPMENT | 1 | 2 |
| DICKSON&M | COG | 77 | COGNITION | 1 | 1 |
| DICKSON&M | PAP | 79 | MISC: TECH REP, BULL | 1 | 1 |
| DICKSON&M | PAP | 79 | MISC: TECH REP, BULL | 1 | 2 |
| DICKSON&M | PAP | 79 | MISC: TECH REP, BULL | 1 | 3 |
| FEFFER&S | JPSP | 66 | J PERS & SOCIAL PSYC | 1 | 1 |
| FEFFER&S | JPSP | 66 | J PERS & SOCIAL PSYC | 1 | 2 |
| FISHBEIN& | MPQ | 71 | MERRILL-PALMER QTLY | 1 | 1 |
| FISHBEIN& | MPQ | 71 | MERRILL-PALMER QTLY | 2 | 1 |
| FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 1 | 1 |
| FORD & O | JECP | 75 | J OF EXPER CHILD PSY | 2 | 1 |
| FRIEDENBRG | CD | 77 | CHILD DEVELOPMENT | 1 | 1 |
| GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 1 |
| GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 2 |
| GARMIZA&A | MPQ | 76 | MERRILL-PALMER QTLY | 1 | 3 |
| GENESEE & | CD | 75 | CHILD DEVELOPMENT | 1 | 1 |
| GLUCKSBG | JECP | 66 | J OF EXPER CHILD PSY | 1 | 1 |
| GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 1 | 1 |
| GREENSPAN | PAP | 75 | PAPER AT CONFERENCE | 2 | 1 |
| GRUSHCOW& | CD | 71 | CHILD DEVELOPMENT | 1 | 1 |
| HEIDER | JPSP | 71 | J PERS & SOCIAL PSYC | 1 | 1 |
| HEIDER | JPSP | 71 | J PERS & SOCIAL PSYC | 1 | 2 |
| HIGGINS | GPM | 77 | GENETIC PSYCH MONOGR | 1 | 1 |
| HOEMAN | CD | 72 | CHILD DEVELOPMENT | 1 | 1 |
| HOEMAN | CD | 72 | CHILD DEVELOPMENT | 1 | 2 |
| HOEMAN | CD | 72 | CHILD DEVELOPMENT | 1 | 3 |
| HOY | DP | 75 | DEVELOPMENTAL PSYCH | 1 | 1 |
| IRONSMITH& | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| JOHNSON&G | LS | 68 | LANGUAGE & SPEECH | 1 | 1 |
| JOHNSTON& | BJP | 68 | BRITISH J OF PSYCH | 1 | 1 |

TRAINING WAS GIVEN 

| TRAINING GIVEN | AUTHORS | PUB YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|
| | KARABENICK&CD | 77 | CHILD DEVELOPMENT | 1 | 1 |
| | KRAUSS & G CD | 69 | CHILD DEVELOPMENT | 1 | 1 |
| | KRAUSS & MPQ | 68 | MERRILL-PALMER QTLY | 1 | 1 |
| | KRAUSS& JPSP | 68 | J PERS & SOCIAL PSYC | 1 | 1 |
| | KRAUSS& JPSP | 68 | J PERS & SOCIAL PSYC | 1 | 2 |
| | KRAUSS & JPSP | 66 | J PERS & SOCIAL PSYC | 1 | 1 |
| | KRAUSS& JVLVB | 67 | J OF VERBAL LEARNING | 1 | 1 |
| | KRAUSS& JVLVB | 67 | J OF VERBAL LEARNING | 1 | 2 |
| | LONGHURST& CD | 71 | CHILD DEVELOPMENT | 1 | 1 |
| | LONGHURST& CD | 71 | CHILD DEVELOPMENT | 1 | 2 |
| | MARATSOS CD | 73 | CHILD DEVELOPMENT | 1 | 1 |
| | MEISSNER JEP | 75 | J OF ED PSYCH | 1 | 1 |
| | MEISSNER JEP | 75 | J OF ED PSYCH | 1 | 2 |
| | MEISSNER DP | 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MEISSNER DP | 78 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | MEISSNER & DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | MEISSNER & DP | 76 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | MENIG-PETE CD | 75 | CHILD DEVELOPMENT | 1 | 1 |
| | MENIG-PETE CD | 75 | CHILD DEVELOPMENT | 1 | 2 |
| | PETERSON & CD | 72 | CHILD DEVELOPMENT | 1 | 1 |
| | PICHE & CD | 75 | CHILD DEVELOPMENT | 1 | 1 |
| | PICHE & CD | 75 | CHILD DEVELOPMENT | 1 | 2 |
| | PICHE & CD | 75 | CHILD DEVELOPMENT | 1 | 3 |
| | POZNER & DP | 74 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | RATNER &R REC | 63 | PSYCH RECORD | 1 | 1 |
| | ROBINSON & DP | 76 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ROBINSON & DP | 76 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ROBINSON & DP | 77 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | ROBINSON & DP | 77 | DEVELOPMENTAL PSYCH | 2 | 1 |
| | ROBINSON & DP | 77 | DEVELOPMENTAL PSYCH | 2 | 2 |
| | ROBINSON & DP | 77 | DEVELOPMENTAL PSYCH | 3 | 1 |
| | ROSENBRG& REV | 66 | PSYCH REVIEW | 1 | 1 |
| | ROSENBRG& REV | 66 | PSYCH REVIEW | 2 | 1 |
| | ROSENBRG& REV | 66 | PSYCH REVIEW | 3 | 1 |
| | ROSENBRG& REV | 66 | PSYCH REVIEW | 4 | 1 |
| | ROSENBRG& REV | 66 | PSYCH REVIEW | 5 | 1 |
| | RUBIN DP | 72 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | RUBIN CD | 73 | CHILD DEVELOPMENT | 1 | 1 |
| | SAMUELS& JEDP | 69 | J OF ED PSYCH | 1 | 1 |
| | SAMUELS& JEDP | 69 | J OF ED PSYCH | 1 | 2 |
| | SCHMIDT & CD | 70 | CHILD DEVELOPMENT | 1 | 1 |
| | SUSSWEIN & CD | 75 | CHILD DEVELOPMENT | 1 | 1 |
| | TRIANDIS HR | 60 | HUMAN RELATIONS | 1 | 1 |
| | TRIANDIS HR | 60 | HUMAN RELATIONS | 1 | 2 |
| | TRIANDIS HR | 60 | HUMAN RELATIONS | 1 | 3 |
| | WHITEHURST CD | 76 | CHILD DEVELOPMENT | 1 | 1 |
| | WOOD & BJP | 75 | BRITISH J OF PSYCH | 1 | 1 |

TRAINING WAS GIVEN PAGE X - 3

| TRAINING GIVEN | AUTHORS | PUB | YEAR | JOURNAL OR SOURCE | E | T |
|---|---|---|---|---|---|---|
| TRAINING GIVEN | | | | | | |
| | CHANDLER&G | DP | 74 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | CHANDLER&G | DP | 74 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | COSGROVE & | DP | 77 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 | 1 |
| | COSGROVE & | CD | 78 | CHILD DEVELOPMENT | 1 | 2 |
| | DICKSON | DIS | 74 | DISSERTATION | 1 | 1 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 | 1 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 | 2 |
| | FRY | CD | 66 | CHILD DEVELOPMENT | 1 | 3 |
| | IRONSMITH& | CD | 78 | CHILD DEVELOPMENT | 1 | 1 |
| | PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 1 |
| | PATTERSON& | DP | 78 | DEVELOPMENTAL PSYCH | 1 | 2 |
| | SHANTZ & W | CD | 72 | CHILD DEVELOPMENT | 1 | 1 |
| | SHANTZ & W | CD | 72 | CHILD DEVELOPMENT | 1 | 2 |
| | SHANTZ & W | CD | 72 | CHILD DEVELOPMENT | 1 | 3 |
| | SHANTZ & W | CD | 72 | CHILD DEVELOPMENT | 1 | 4 |
| | WHITEHURST | CD | 76 | CHILD DEVELOPMENT | 2 | 1 |
| | WHITEHRST& | CD | 77 | CHILD DEVELOPMENT | 1 | 1 |

18

TOTAL

114

Tasks Ordered on Number of Trials

TASKS ORDERED ON NUMBER OF TRIALS PAGE Y - 1

| AUTHORS PUB YEAR | JOURNAL OR SOURCE | E | T | NUMBER OF TRIALS IN TASK |
|---|---|---|---|---|
| CHAPANIS & HF 72 | HUMAN FACTORS | 1 | 1 | 1 |
| CHAPANIS & HF 72 | HUMAN FACTORS | 1 | 2 | 1 |
| GENESEE & CD 75 | CHILD DEVELOPMENT | 1 | 1 | 1 |
| KRAUSS & MPQ 68 | MERRILL-PALMER QTLY | 1 | 1 | 1 |
| RATNER &R REC 63 | PSYCH RECORD | 1 | 1 | 1 |
| SCHMIDT & CD 70 | CHILD DEVELOPMENT | 1 | 1 | 1 |
| WOOD & BJP 75 | BRITISH J OF PSYCH | 1 | 1 | 1 |
| FRY CD 66 | CHILD DEVELOPMENT | 1 | 2 | 1 |
| FRY CD 66 | CHILD DEVELOPMENT | 1 | 3 | 1 |
| SHANTZ & W CD 72 | CHILD DEVELOPMENT | 1 | 2 | 1 |
| SHANTZ & W CD 72 | CHILD DEVELOPMENT | 1 | 3 | 1 |
| BALDWIN& AERJ 73 | AMER ED RESEARCH J | 1 | 3 | 2 |
| BEARISON&C DP 75 | DEVELOPMENTAL PSYCH | 1 | 1 | 2 |
| GREENSPAN PAP 75 | PAPER AT CONFERENCE | 2 | 1 | 2 |
| HOEMAN CD 72 | CHILD DEVELOPMENT | 1 | 3 | 2 |
| HOY DP 75 | DEVELOPMENTAL PSYCH | 1 | 1 | 2 |
| MEISSNER & DP 76 | DEVELOPMENTAL PSYCH | 1 | 1 | 2 |
| MEISSNER & DP 76 | DEVELOPMENTAL PSYCH | 1 | 2 | 2 |
| SHANTZ & W CD 72 | CHILD DEVELOPMENT | 1 | 4 | 2 |
| FEFFER&S JPSP 66 | J PERS & SOCIAL PSYC | 1 | 1 | 3 |
| GRUSHCOW& CD 71 | CHILD DEVELOPMENT | 1 | 1 | 3 |
| HOEMAN CD 72 | CHILD DEVELOPMENT | 1 | 1 | 3 |
| FRY CD 66 | CHILD DEVELOPMENT | 1 | 1 | 3 |
| BALDWIN& AERJ 73 | AMER ED RESEARCH J | 1 | 2 | 4 |
| KARABENICK&CD 77 | CHILD DEVELOPMENT | 1 | 1 | 4 |
| MENIG-PETE CD 75 | CHILD DEVELOPMENT | 1 | 1 | 4 |
| MENIG-PETE CD 75 | CHILD DEVELOPMENT | 1 | 2 | 4 |
| PICHE & CD 75 | CHILD DEVELOPMENT | 1 | 3 | 4 |
| POZNER & DP 74 | DEVELOPMENTAL PSYCH | 1 | 1 | 4 |
| SAMUELS& JEDP 69 | J OF ED PSYCH | 1 | 1 | 4 |
| SHANTZ & W CD 72 | CHILD DEVELOPMENT | 1 | 1 | 4 |
| HEIDER JPSP 71 | J PERS & SOCIAL PSYC | 1 | 1 | 5 |
| HEIDER JPSP 71 | J PERS & SOCIAL PSYC | 1 | 2 | 5 |
| SAMUELS& JEDP 69 | J OF ED PSYCH | 1 | 2 | 5 |
| FISHBEIN& MPQ 71 | MERRILL-PALMER QTLY | 1 | 1 | 6 |
| FISHBEIN& MPQ 71 | MERRILL-PALMER QTLY | 2 | 1 | 6 |
| JOHNSTON& BJP 68 | BRITISH J OF PSYCH | 1 | 1 | 6 |
| PETERSON & CD 72 | CHILD DEVELOPMENT | 1 | 1 | 6 |
| ROBINSON & DP 76 | DEVELOPMENTAL PSYCH | 1 | 1 | 6 |
| ROBINSON & DP 76 | DEVELOPMENTAL PSYCH | 2 | 1 | 6 |
| ROBINSON & DP 77 | DEVELOPMENTAL PSYCH | 1 | 1 | 6 |
| ROBINSON & DP 77 | DEVELOPMENTAL PSYCH | 3 | 1 | 6 |
| SUSSWEIN & CD 75 | CHILD DEVELOPMENT | 1 | 1 | 6 |
| TRIANDIS HR 60 | HUMAN RELATIONS | 1 | 1 | 6 |

TASKS ORDERED ON NUMBER OF TRIALS 

| AUTHORS PUB YEAR | JOURNAL OR SOURCE | E | T | NUMBER OF TRIALS IN TASK |
|---|---|---|---|---|
| TRIANDIS HR 60 | HUMAN RELATIONS | 1 | 2 | 6 |
| PICHE & CD 75 | CHILD DEVELOPMENT | 1 | 2 | 7 |
| DICKSON&M PAP 79 | MISC: TECH REP, BULL | 1 | 1 | 8 |
| FRIEDENBRG CD 77 | CHILD DEVELOPMENT | 1 | 1 | 8 |
| GLUCKSBG JECP 66 | J OF EXPER CHILD PSY | 1 | 1 | 8 |
| KRAUSS & G CD 69 | CHILD DEVELOPMENT | 1 | 1 | 8 |
| PICHE & CD 75 | CHILD DEVELOPMENT | 1 | 1 | 8 |
| GREENSPAN PAP 75 | PAPER AT CONFERENCE | 1 | 1 | 9 |
| LONGHURST& CD 71 | CHILD DEVELOPMENT | 1 | 1 | 9 |
| LONGHURST& CD 71 | CHILD DEVELOPMENT | 1 | 2 | 9 |
| ROBINSON & DP 77 | DEVELOPMENTAL PSYCH | 2 | 1 | 9 |
| ROBINSON & DP 77 | DEVELOPMENTAL PSYCH | 2 | 2 | 9 |
| CHANDLER&G DP 74 | DEVELOPMENTAL PSYCH | 1 | 1 | 9 |
| CHANDLER&G DP 74 | DEVELOPMENTAL PSYCH | 1 | 2 | 9 |
| BALDWIN& AERJ 73 | AMER ED RESEARCH J | 1 | 1 | 10 |
| BALDWIN,M& CD 71 | CHILD DEVELOPMENT | 1 | 1 | 10 |
| GARMIZA&A MPQ 76 | MERRILL-PALMER QTLY | 1 | 1 | 10 |
| GARMIZA&A MPQ 76 | MERRILL-PALMER QTLY | 1 | 2 | 10 |
| GARMIZA&A MPQ 76 | MERRILL-PALMER QTLY | 1 | 3 | 10 |
| HIGGINS GPM 77 | GENETIC PSYCH MONOGR | 1 | 1 | 10 |
| MEISSNER JEP 75 | J OF ED PSYCH | 1 | 1 | 10 |
| MEISSNER JEP 75 | J OF ED PSYCH | 1 | 2 | 10 |
| RUBIN DP 72 | DEVELOPMENTAL PSYCH | 1 | 1 | 10 |
| RUBIN CD 73 | CHILD DEVELOPMENT | 1 | 1 | 10 |
| ASHER DP 76 | DEVELOPMENTAL PSYCH | 2 | 1 | 12 |
| BEARISON&L CD 77 | CHILD DEVELOPMENT | 1 | 1 | 12 |
| DICKSON & CD 79 | CHILD DEVELOPMENT | 1 | 1 | 12 |
| DICKSON & CD 79 | CHILD DEVELOPMENT | 1 | 2 | 12 |
| FORD & O JECP 75 | J OF EXPER CHILD PSY | 1 | 1 | 12 |
| HOEMAN CD 72 | CHILD DEVELOPMENT | 1 | 2 | 12 |
| KRAUSS& JVLVB 67 | J OF VERBAL LEARNING | 1 | 1 | 12 |
| KRAUSS& JVLVB 67 | J OF VERBAL LEARNING | 1 | 2 | 12 |
| MARATSOS CD 73 | CHILD DEVELOPMENT | 1 | 1 | 12 |
| TRIANDIS HR 60 | HUMAN RELATIONS | 1 | 3 | 12 |
| COSGROVE & DP 77 | DEVELOPMENTAL PSYCH | 1 | 1 | 12 |
| COSGROVE & CD 78 | CHILD DEVELOPMENT | 1 | 2 | 12 |
| MEISSNER DP 78 | DEVELOPMENTAL PSYCH | 1 | 1 | 14 |
| MEISSNER DP 78 | DEVELOPMENTAL PSYCH | 1 | 2 | 14 |
| ASHER DP 76 | DEVELOPMENTAL PSYCH | 1 | 1 | 15 |
| FORD & O JECP 75 | J OF EXPER CHILD PSY | 2 | 1 | 15 |
| DICKSON&M PAP 79 | MISC: TECH REP, BULL | 1 | 3 | 16 |
| KRAUSS & JPSP 66 | J PERS & SOCIAL PSYC | 1 | 1 | 16 |
| BRILHART JC 65 | J OF COMMUNICATION | 1 | 1 | 17 |
| COSGROVE & CD 78 | CHILD DEVELOPMENT | 1 | 1 | 18 |
| IRONSMITH& CD 78 | CHILD DEVELOPMENT | 1 | 1 | 20 |

TASKS ORDERED ON NUMBER OF TRIALS PAGE Y - 3

| AUTHORS PUB YEAR | JOURNAL OR SOURCE | E | T | NUMBER OF TRIALS IN TASK |
|---|---|---|---|---|
| DANKS CP 70 | COGNITIVE PSYCH | 1 | 1 | 22 |
| DANKS CP 70 | COGNITIVE PSYCH | 1 | 2 | 22 |
| KRAUSS& JPSP 68 | J PERS & SOCIAL PSYC | 1 | 1 | 24 |
| PATTERSON& DP 78 | DEVELOPMENTAL PSYCH | 1 | 1 | 24 |
| PATTERSON& DP 78 | DEVELOPMENTAL PSYCH | 1 | 2 | 24 |
| WHITEHURST CD 76 | CHILD DEVELOPMENT | 2 | 1 | 24 |
| ROSENBRG& REV 66 | PSYCH REVIEW | 5 | 1 | 25 |
| ASHER&ODEN DP 76 | DEVELOPMENTAL PSYCH | 1 | 1 | 30 |
| ASHER &P JEDP 75 | J OF ED PSYCH | 1 | 1 | 30 |
| ASHER &P JEDP 75 | J OF ED PSYCH | 2 | 1 | 30 |
| ASHER &P JEDP 75 | J OF ED PSYCH | 3 | 1 | 30 |
| COHEN & KL CD 68 | CHILD DEVELOPMENT | 1 | 1 | 30 |
| IRONSMITH& DP 78 | DEVELOPMENTAL PSYCH | 1 | 1 | 30 |
| FEFFER&S JPSP 66 | J PERS & SOCIAL PSYC | 1 | 2 | 36 |
| WHITEHRST& CD 77 | CHILD DEVELOPMENT | 1 | 1 | 36 |
| JOHNSON&G LS 68 | LANGUAGE & SPEECH | 1 | 1 | 40 |
| WHITEHURST CD 76 | CHILD DEVELOPMENT | 1 | 1 | 40 |
| ROSENBRG& REV 66 | PSYCH REVIEW | 3 | 1 | 48 |
| ROSENBRG& REV 66 | PSYCH REVIEW | 4 | 1 | 50 |
| DICKSON&M COG 77 | COGNITION | 1 | 1 | 64 |
| DICKSON&M PAP 79 | MISC: TECH REP, BULL | 1 | 2 | 64 |
| DICKSON DIS 74 | DISSERTATION | 1 | 1 | 64 |
| KRAUSS& JPSP 68 | J PERS & SOCIAL PSYC | 1 | 2 | 72 |
| ROSENBRG& REV 66 | PSYCH REVIEW | 1 | 1 | 99 |
| ROSENBRG& REV 66 | PSYCH REVIEW | 2 | 1 | 99 |